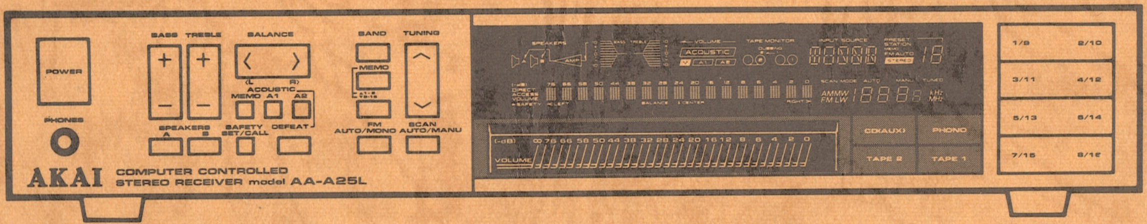
AKAI SERVICE MANUAL

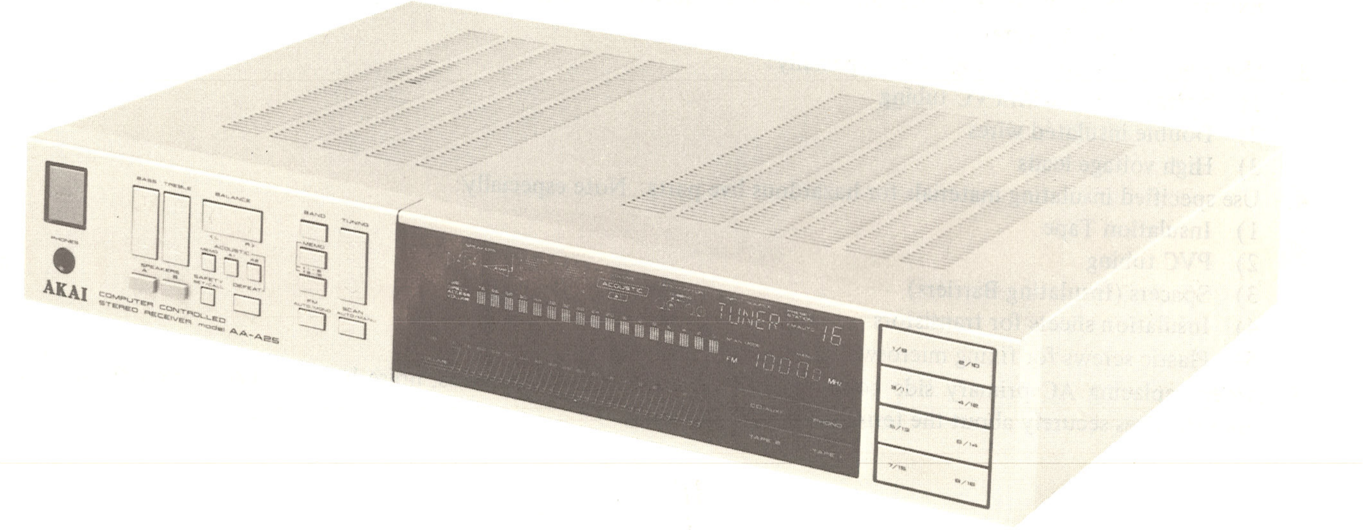

POWER
PHONES
BASS
TREBLE
BALANCE
(L
R)
ACOUSTIC
MEMO
A1
A2
BAND
MEMO
TUNING
SPEAKERS A
B
SAFETY SET/CALL
DEFEAT
FM AUTO/MONO
SCAN AUTO/MANU
AKAI
COMPUTER CONTROLLED STEREO RECEIVER model AA-A25L
(-dB)
VOLUME
CD(AUX)
PHONO
TAPE 2
TAPE 1
1/9
2/10
3/11
4/12
5/13
6/14
7/15
8/16

COMPUTER CONTROLLED STEREO RECEIVER

AA-A25/Y1
MODEL AA-A25L

ABBREVIATIONS FOR SERVICE MANUAL
MODEL AA-A25/Y1, AA-A25L

ABBREVIATION	EXPLANATIONA	ABBREVIATION	EXPLANATION
AC	Alternating Current	LW	Long Wave
A/D	Analog/Digital	MOD	MODulation
AFC	Auto Frequency Control	MW	Middle Wave
AGC	Auto Gain Control	MPX	Multi PleX
ALC	Auto Level Control	OSC	OSCillator
AM	Amplitude Modulation	PB	Play Back
ANT	ANTenna	PLL	Phase Locked Loop
A-SW	Analog SWitch	REC	RECord
BUF	BUFfur	RF	Radio Frequency
CK	ClocK	RST	ReSeT
D/A	Digital/Analog	SEG	SEGment
DC	Direct Current	SENS	SENSitivity
DET	DETector	SM	Signal Meter
FF	Flip Flop	SSG	Standard Signal Generator
FLD (FL DISPLAY)	FLuorescent Display	ST	STrob
FM	Frequency Modulation	SW	SWitch
FREQ	FREQuency	T.H.D	Total Harmonic Distortion
GND	GrouND	VCO	Voltage Controlled Oscillator
IF	Intermediate Frequency	VR	Variable Resistor


AKAI
COMPUTER CONTROLLED
STEREO RECEIVER model AA-A25
PHONES
BASS
TREBLE
BALANCE
SPEAKERS
ACOUSTIC
SAFETY
DEFEAT
BAND
MEMO
TUNING
FM
SCAN
TUNER
16
FM
100.00
MHz
CD/AUX
PHONO
TAPE 2
TAPE 1
1/9
2/10
3/11
4/12
5/13
6/14
7/15
8/16

COMPUTER CONTROLLED STEREO RECEIVER

AA-A25/Y1
MODEL AA-A25L

SECTION 1 SERVICE MANUAL 3
SECTION 2 PARTS LIST 19

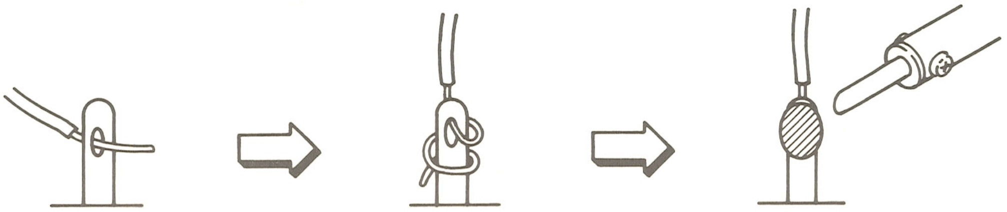
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for $\boxed{C}$ or $\boxed{A}$, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks. line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

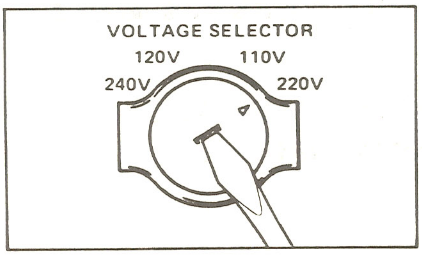
1. Parts identified by the ⚠ symbol parts are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

VOLTAGE CONVERSION

Models for Canada, USA, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to destination, but some machines can be set to 110V, 120V, 220V or 240V as required. If your machine's voltage can be converted:
Before connecting the power cord, turn the VOLTAGE SELECTOR located on the rear panel with a screwdriver until the correct voltage is indicated.



SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

I. SPECIFICATIONS 4
II. DISMANTLING OF UNIT 5
III. CONTROLS 6
IV. PRINCIPAL PARTS LOCATION 7
V. DESCRIPTION OF THE CIRCUIT OPERATION 8
  5-1 AMPLIFIER PERFORMANCE 8
  5-2 TUNER PERFORMANCE 11
VI. TUNER ADJUSTMENT 14
  6-1 THE INSTRUMENT CONNECTIONS 14
  6-2 TUNER, FRONT END, MPX PC BOARD ADJUSTMENT POINTS ... 14
  6-3 HOW TO CALL THE PRESET FREQUENCY FOR THE TUNER ADJUSTMENT 15
  6-4 FM SECTION ADJUSTMENT 16
  6-5 LW SECTION ADJUSTMENT 17
  6-6 AM (MW) SECTION ADJUSTMENT 17
VII. PC BOARD TITLES AND IDENTIFICATION NUMBERS 18

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

FM TUNER SECTION

TUNING FREQUENCY RANGE	87.5MHz to 108.0MHz
USABLE SENSITIVITY (IHF)	11.2dBf (300 ohms)
QUIETING SENSITIVITY (IHF) (S/N = 50dB)	16.2dBf (Mono)/37.2dBf (Stereo)
CUPTURE RATIO	1.5dB
SELECTIVITY (IHF)	60dB (400kHz)
IMAGE REJECTION	85dB
IF REJECTION	90dB
SPURIOUS REJECTION	90dB
AM SUPPRESSION	60dB
S/N (IHF)	75dB (Mono)/65dB (Stereo)
HARMONIC DISTORTION	0.1% (Mono)/0.3% (Stereo)
STEREO SEPARATION	45dB (1kHz)

LW TUNER SECTION (AA-A25L Only)

TUNING FREQUENCY RANGE	146kHz to 353kHz
USABLE SENSITIVITY (IHF)	800μV/m
SELECTIVITY (IHF)	30dB
IMAGE REJECTION	45dB
IF REJECTION	55dB
S/N	35dB
T.H.D	2.0%
ANTENNA	Loop antenna

AM TUNER SECTION (MW for AA-A25L)

TUNING FREQUENCY RANGE	530kHz to 1610kHz for USA and Canada 531kHz to 1602kHz for other countries
USABLE SENSITIVITY (IHF)	300μV/m
SELECTIVITY (IHF)	25dB
IMAGE REJECTION	40dB
IF REJECTION	55dB
S/N	40dB
T.H.D.	1.0%
ANTENNA	Loop antenna

AMPLIFIER SECTION

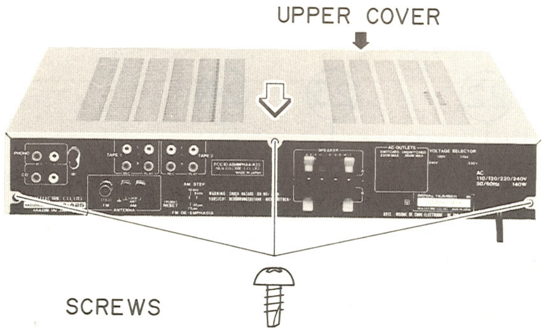
RATED POWER OUTPUT		8 ohms
	20Hz to 20kHz	30WX2/0.05%
	1kHz	33WX2/0.05%
MUSIC POWER		60W
POWER BANDWIDTH (IHF, −3dB, 8ohms)		5Hz to 60kHz/0.1%
S/N	PHONO	75dB
	AUX	98dB
RESIDUAL NOISE (8 ohms)		0.5mV
CHANNEL SEPARATION (IHF)	PHONO/AUX	65dB (1kHz)
DAMPING FACTOR (1kHz, 8 ohms)		50
OUTPUT	SPEAKER	A or B 4 to 16 ohms A + B 8 to 16 ohms
INPUT SENSITIVITY/IMPEDANCE	PHONO	2.5mV/100kohms
	AUX/TAPE	150mV/47kohms
OUTPUT LEVEL/IMPEDANCE	TAPE REC	150mV/3kohms
FREQUENCY RESPONSE	PHONO (RIAA)	±0.5dB (30Hz to 15kHz)
	AUX/TAPE	5Hz to 100kHz −3dB
TONE CONTROL	BASS	±8dB (100Hz)
	TREBLE	±8dB (10kHz)
PHONO MAX. INPUT (MM)		150mV (1kHz)
POWER REQUIREMENTS		120V, 60Hz for USA & Canada 220V, 50Hz for Europe except UK 240V, 50Hz for UK & Australia 110V/120V/220V/240V, 50/60Hz switchable for other countries
DIMENSIONS		440(W) × 80(H) × 318(D) mm
WEIGHT		6.2kg

*** For improvement purposes, specifications and design are subject to change without notice.**

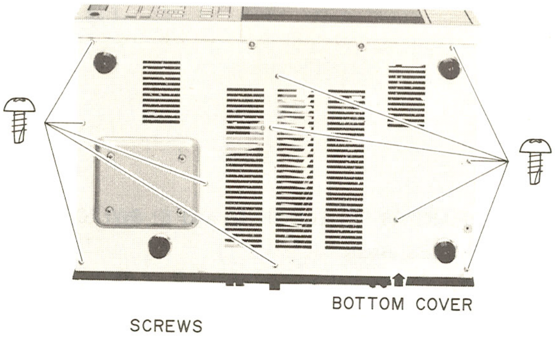
II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

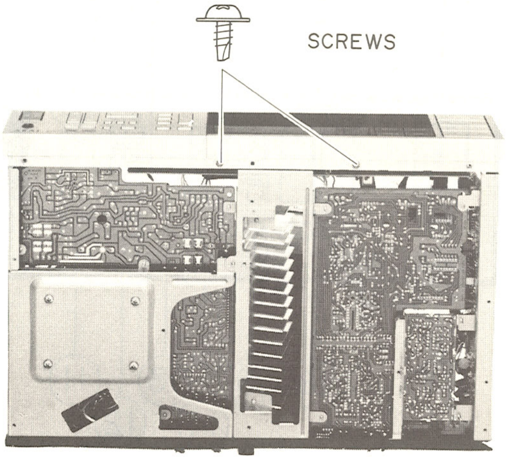
1


UPPER COVER
SCREWS

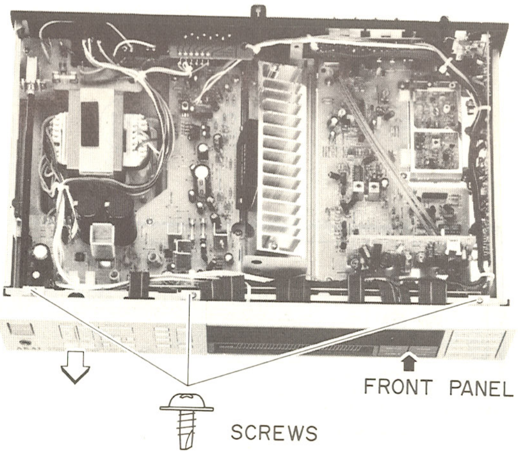
2


SCREWS
BOTTOM COVER

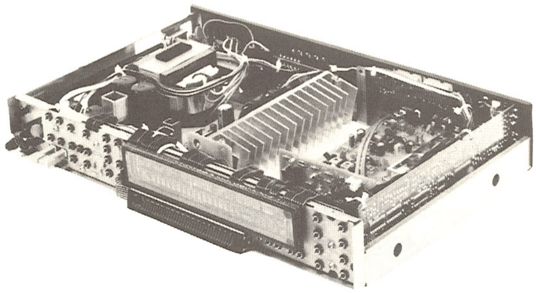
3



4


FRONT PANEL
SCREWS

5



III. CONTROLS

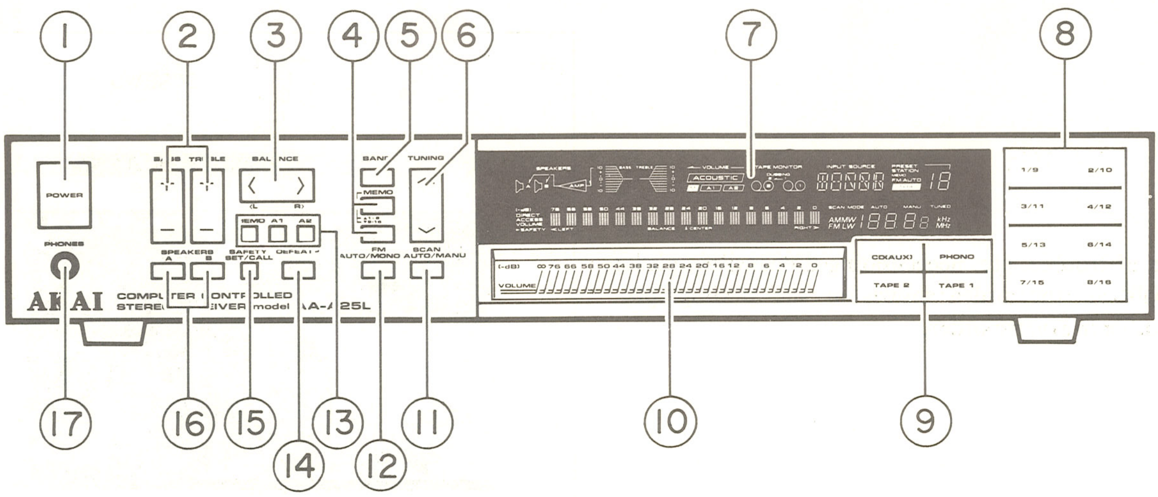

1
2
3
4
5
6
7
8
POWER
PHONES
BASS
TREBLE
BALANCE
BAND
TUNING
MEMO
MEMO A1 A2
SPEAKERS A B
SAFETY SET/CALL
DEFEAT
FM AUTO/MONO
SCAN AUTO/MANU
AKAI
COMPUTER CONTROLLED STEREO RECEIVER model AA-A25L
ACOUSTIC
VOLUME
CD(AUX)
PHONO
TAPE 2
TAPE 1
1/9
2/10
3/11
4/12
5/13
6/14
7/15
8/16
17
16
15
14
13
12
11
10
9

Fig. 3-1 Front View

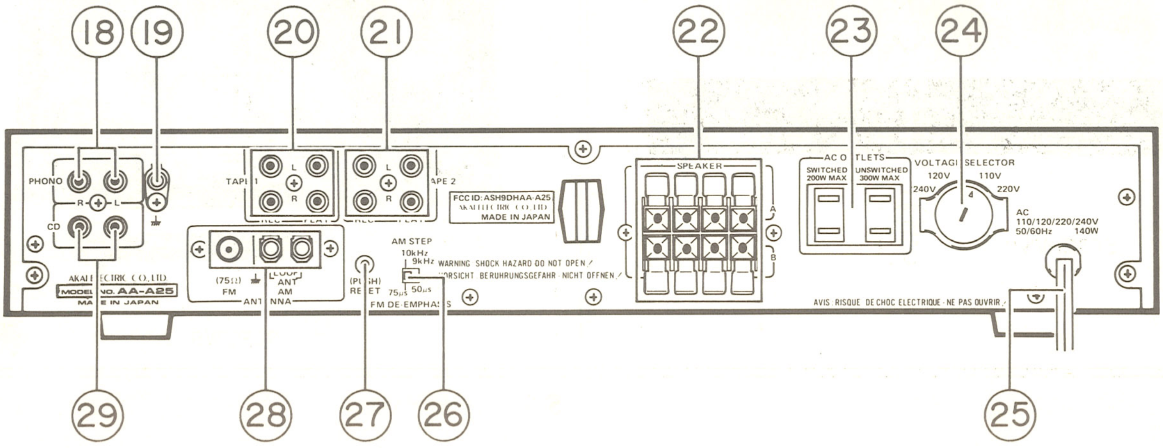

18
19
20
21
22
23
24
PHONO
CD
TAPE 1
TAPE 2
FCC ID: ASH9DHAA-A25
AKAI ELECTRIC CO., LTD
MADE IN JAPAN
MODEL NO. AA-A25
ANTENNA
(75Ω) FM
LOOP ANT AM
AM STEP 10kHz 9kHz
(PUSH) RESET
75μs 50μs
FM DE-EMPHASIS
WARNING SHOCK HAZARD DO NOT OPEN
VORSICHT BERUHRUNGSGEFAHR NICHT OFFNEN
SPEAKER
A
B
AC OUTLETS
SWITCHED 200W MAX
UNSWITCHED 300W MAX
VOLTAGE SELECTOR
120V
110V
240V
220V
AC 110/120/220/240V 50/60Hz 140W
AVIS RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR
29
28
27
26
25

Fig. 3-2 Rear View

1. POWER SWITCH
2. TONE CONTROL (BASS, TREBLE) BUTTONS
3. BALANCE BUTTON
4. STATION MEMO BUTTONS (1 to 8 & 9 to 16)
5. BAND SELECTOR BUTTON
6. TUNING CONTROL BUTTON
7. FL DISPLAY
8. PRESET STATION BUTTONS
9. INPUT SOURCE SELECTORS BUTTON (PHONO, CD-(AUX), TAPE1 and TAPE2)
10. DIRECT ACCESS VOLUME CONTROL
11. SCAN AUTO/MANU SELECTOR BUTTON
12. FM MODE AUTO/MONO BUTTON
13. ACOUSTIC MEMO, A1 and A2 BUTTONS
14. DEFEAT BUTTON
15. SAFETY SET/CALL BUTTON
16. SPEAKERS SELECTOR (A and B) SWITCH
17. PHONES JACK
18. PHONO JACKS
19. GROUND TERMINAL
20. TAPE 1 (REC/PLAY) JACKS
21. TAPE 2 (REC/PLAY) JACKS
22. SPEAKER TERMINALS (A and B)
23. AC OUTLETS
24. VOLTAGE SELECTOR ($\boxed{U}$, $\boxed{Y_1}$ model only)
25. AC POWER CORD
26. AM STEP/FM DE-EMPHASIS SELECTOR ($\boxed{U}$, $\boxed{Y_1}$ model only)
27. RESET BUTTON
28. ANTENNA TERMINAL
29. CD (AUX) JACKS

IV. PRINCIPAL PARTS LOCATION

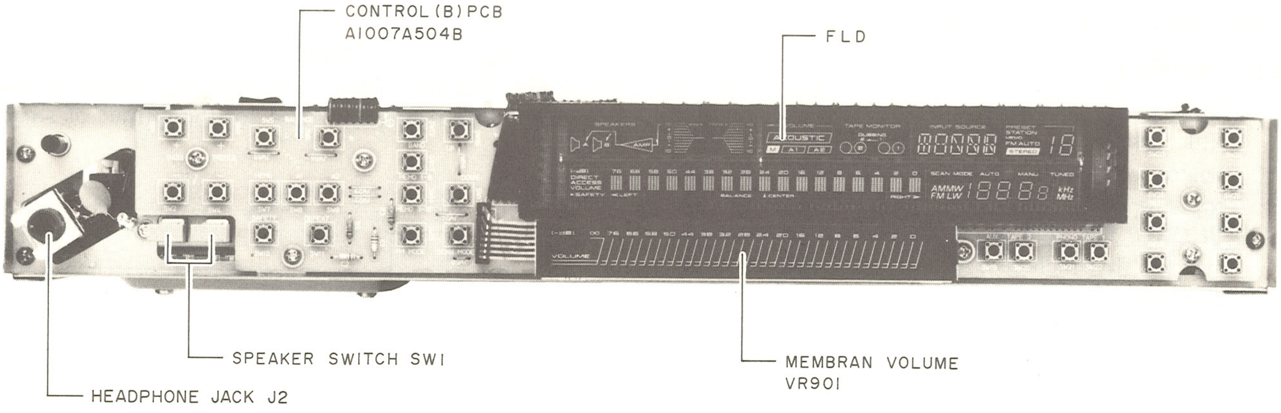

CONTROL (B) PCB
A1007A504B
FLD
SPEAKER SWITCH SW1
HEADPHONE JACK J2
MEMBRAN VOLUME
VR901

Fig. 4-1 Front View

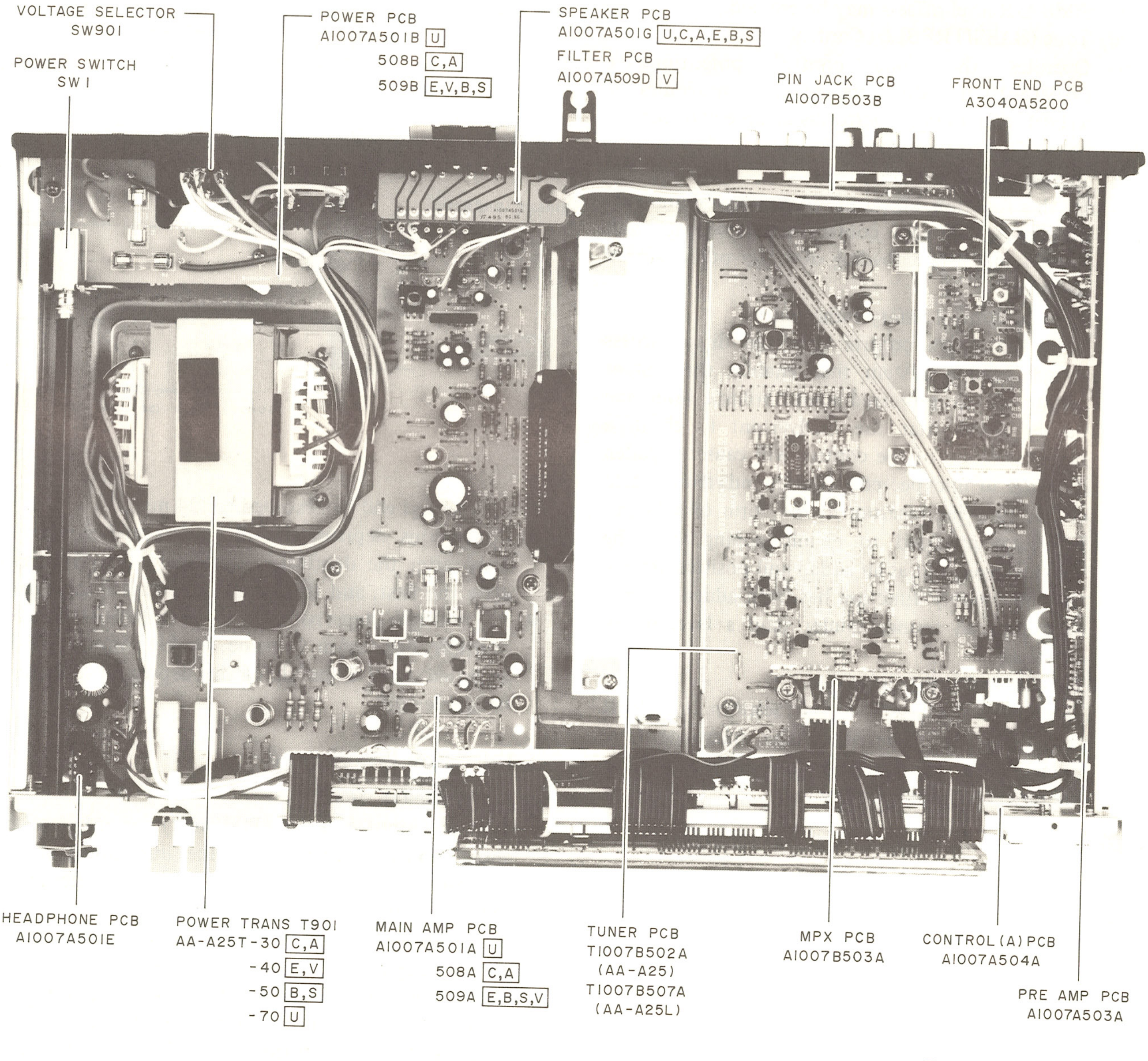

VOLTAGE SELECTOR
SW901
POWER SWITCH
SW1
POWER PCB
A1007A501B U
508B C,A
509B E,V,B,S
SPEAKER PCB
A1007A501G U,C,A,E,B,S
FILTER PCB
A1007A509D V
PIN JACK PCB
A1007B503B
FRONT END PCB
A3040A5200
HEADPHONE PCB
A1007A501E
POWER TRANS T901
AA-A25T-30 C,A
-40 E,V
-50 B,S
-70 U
MAIN AMP PCB
A1007A501A U
508A C,A
509A E,B,S,V
TUNER PCB
T1007B502A
(AA-A25)
T1007B507A
(AA-A25L)
MPX PCB
A1007B503A
CONTROL (A) PCB
A1007A504A
PRE AMP PCB
A1007A503A

Fig. 4-2 Upper View

V. DESCRIPTION OF THE CIRCUIT OPERATION

5-1 AMPLIFIER PERFORMANCE

5-1-1 General Description

(1) Functions

a) Input Selector Control

This microcomputers is capable of controlling analog switch TC9164N that serves as the input selector. Three input systems that include PHONO, CD, and TUNER, and two monitoring systems that include TAPE 1 and TAPE 2 may be controlled.

b) Direct Access Volume Control

Reads voltages detected out of the sound-volume touch control through an A/D converter, and sets the electronic potentiometer in accordance with the read data. In this process, any designated setting will be reached from the earlier potentiometer position by fading in or out.

c) Balance Control

By setting various level differences between Lch and Rch on the main control, up to a maximum of 30dB L-R level offsets may be created.

d) Tone (BASS/TREBLE) Control

Operates the tone control potentiometer (TC9156P) in 2dB steps up to a maximum of ±10dB, and thereby performs as an electronically controlled tone circuit.

f) Acoustic Pattern Storage

By this function, stores in the microcomputer two patterns of the tone control circuit settings, and enables the instant loading of either of the stored patterns.

g) Volume Control Safety Function

With the touch control operated direct access sound volume system that enables the instant setting of any preferred sound volume level, the danger exists that the inadvertent touch of a higher position of the control will cause a sudden emission of unexpectedly high sounds from speakers. A time lag measure in the form of fade-in's has been provided to enable coping with the above danger, but as an added and positive precaution, this safety function has been added on that suppresses all sounds louder than a level set in advance.

h) TUNER Direct Function

This function will set the input selector at TUNER upon receiving data from the microcomputer (A1007T) for the tuner that is output as soon as the tuner has been operated.

5-1-2 Key Input and Dynamic FL Display Strobes

Key inputs and FL displays are both handled dynamically, and their basic clock signals generated by the ITMR interrupt (1,024 Hz) for the output of strobe signals.

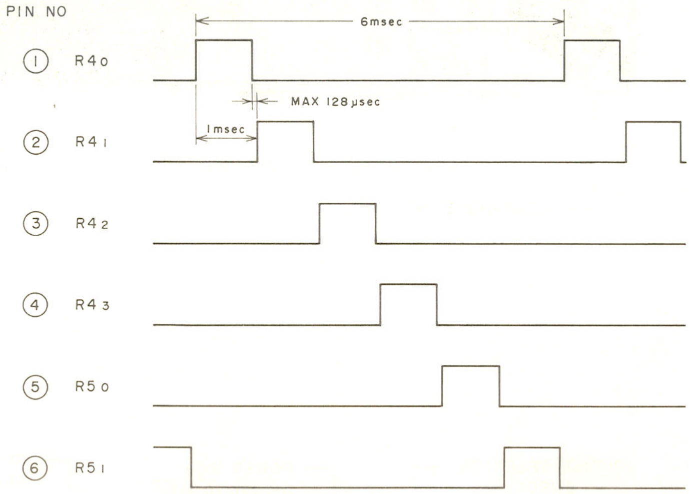


Fig. 5-1

5-1-3 Acceptance of Key Inputs

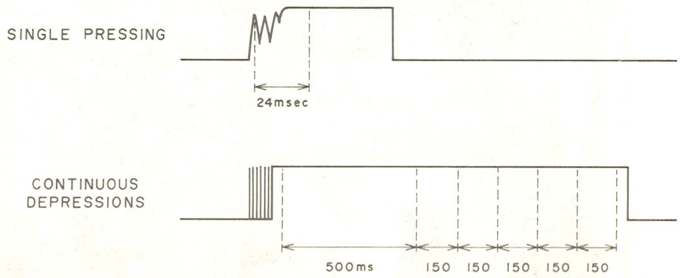


Fig. 5-2

- Chatterings will be absorbed for 24 msec.
- Continuous depressions will be accepted first at 24 msec after the depression start, second at 500 msec after the first, and then at every 150 msec thereafter.
- All multiple depressions shall be inhibited. Once a multiple depression is made, no key inputs will be accepted until after all of the depressed keys have been released.

5-1-4 Key Processings

(1) [PHONO], [CD]

Sets the input selector (TC9164N) for either of the input modes keyed in, and makes due indications for it. Nothing, however, will occur when the depressed key mode has already been engaged.

When either TAPE 1 or TAPE 2 has been keyed on, the displays for a tape monitored input will be flashed on and off for 10 times at a 1/2 duty and once every second, to alert the operator of the ongoing tape monitoring. In addition, when serial data is being transferred to the analog switch, the electronic potentiometer will be muted, to prevent the leakage of switching noises to the output circuit. (The AA-A25/L has no "TUBER" key, but the necessary input selection will be made by command data from the micro-computer (A1007T) incorporated in the tuner.)

(2) [TAPE 1], [TAPE 2]

Each single pressing of either key will switch its monitoring status between ON and OFF from one to the other, and its indication also turn ON and OFF accordingly. In addition, during the transfer of serial data to the analog switch, the electronic potentiometer will be muted to prevent the leakage of switching noises to the output.

This, however, does not apply to TAPE 1 key operations with TAPE 2 in an ON mode.

(3) [VOLUME]

When the sound volume display is being made, either fades the sound volume display is being made, either fades in or fades out to the touched position from an immediately preceding level. The phasing speed will be 2 dB per 60 msec. However, when the touched position is above the "Safety" engaged position, the foregoing operation will be made only up to that "Safety" position. As for the display, the touched position (within the "Safety" range) will instantantly be displayed upon touching.

When either the Balance or the Safety Level is being displayed, the display will be switched to the Volume. Operations thereafter will conform with the above process.

(4) [BALANCE L], [BALANCE R]

When the Balance is being displayed, data will be transferred to provide the designated level offsets between Lch and Rch of the electronic potentiometer, and the display will also synchronize therewith. When continuously depressed, however, the potentiometer setting will start varying at 500 msec after the depression start, and will thereafter vary at 2 dB per 150 msec, but linger for 750 msec at the center position when passing through it. (The display will vary at 2 dB per step in the immediate vicinity of the center position, but at 4 dB per step in all other areas.)

When these keys are pushed while either the Volume or the Safety Level is being displayed, the display will be switched to the Balance.

(5) [SAFETY]

- When either the Volume or Balance position is being displayed:
  A single press of the key will first have the Safety Level position at the time displayed. This display will revert to the Volume position display 5 seconds later, but if the Safety key is depressed continuously for one second or longer, the display will be switched to that of the Volume, and the Safety indicator will flash on and off every second at a 1/2 duty. This signifies a Safety changing mode to have been engaged, where any Volume level up to Max may be selected, and the mode will be sustained for one minute. In other words, the one minute after the beginning of the Safety flashing represents a Safety Level setting time duration.
- When the Safety indicator is flashing on and off:
  The Volume position touched in this duration will be set as the Safety Level that represents the sound volume level not be exceeded by any subsequent acoustic output. As long as the Safety Level set is other than the maximum potentiometer position, the Safety indicator will be lit steadily, but when it is at the maximum position, the indicator will go off.

(6) [BASS+], [BASS−], [TREBLE+], [TREBLE−]

Each single pressing of one of these keys will either raise or lower the electronic potentiometer for either BASS or TREBLE. When it is depressed continuously, the first potentiometer up/down shifting operation will be performed when 500 msec have elapsed since the depression start, and the subsequent operation at the rate of 150 msec per step. When the shifting passes through the center position, it will linger there for 750 msec before moving further on. The display will also vary conforming with individual key operations.

(7) [DEFEAT]

Restores the BASS/TREBLE positions all at the center, regardless of their earlier potentiometer positionings.

(8) [MEMO]

Engages an acoustic pattern storage standby mode. At this time, the ACOUSTIC MEMO indicator will turn on, and the A1 and A2 indicators flash on and off for 10 times at a 1/2 duty in 1-second cycles (at 1 Hz).

Even before 5 seconds are up, the standby mode may be disengaged by pushing any other key than [A1] and [A2].

(9) [A1], [A2]

- When at Standby for Acoustic Pattern Storage:
  Stores the current BASS/TREBLE positions in the memory, and will disengage the storage standby mode.
- When in any other mode than Acoustic Pattern Storage Standby:
  Loads the stored BASS/TREBLE positions, that is, sets the potentiometers instantly at those positions and their displays at the same time.

5-1-5 Input Selector Analog Switch (TC9164N)

Controls the electronic potentiometer (TC9176P) and the tone potentiometer (TC9156P).

(1) Serial Data Structure

The serial data is composed of 3 parallel bits that include DATA, CK, and ST, and the numbers of serial bits of the individual potentiometers have been made as follows:

TC9164N → 14 bits
TC9176P → 20 bits
TC9156P → 18 bits

Control lines DATA and CK for the TC9176P and TC9156P have been made common with control lines ST-WR and CE for A/D converter LC7910, because A/D conversion and data transfers to the potentiometers will never occur simultaneously, and no changes in the status of potentiometers will take place as long as no ST are issued.

[Data Timing Schematic Diagram]

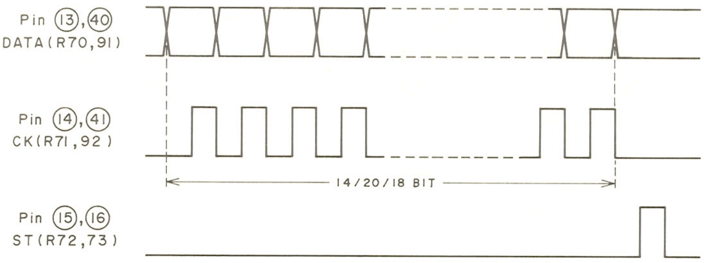


Fig. 5-3

(2) Data Buffers

Data buffers for the TC9146N are formed in RAMs MFSRD0 through MFSRD3, and those for the TC9176P and TC9156P in RAMs MVSRD0 through MVSRD4. Their allocation charts are shown in Tables 5-1 to 5-3.

a) Buffers for the Input Selector Switch (TC9164N)

MFSRD3				MFSRD2				MFSRD1				MFSRD0				
Unused	PHONO	CD	TUNER	SOURCE 1	TAPE1 P.B.	SOURCE 2	TAPE2 P.B			L	R	C_1	C_2	C_3	C_4	
0				0	1	1	0			1	1	0	1	0	0	→ Fixed Data

ON OFF

Table 5-1

Bits 2 and 3 of MFSRD1 will not be transmitted.

b) Buffers for the Master Potentiometer (TC9176P)

MVSRD4				MVSRD3				MVSRD2				MVSRD1				MVSRD0				
L	R		0	2	4	6	8	0	10	20	30	40	50	60	70	C_1	C_2	C_3	C_4	
		0														0	0	0	1	→ Fixed Data

Table 5-2

c) Buffers for the Tone Potentiometer (TC9156P)

MVSRD4				MVSRD3				MVSRD2				MVSRD1				MVSRD0				
+5	+4	+3	+2	+1		0		1	−2	−3	−4			−5	L	R	C_1	C_2	C_3	
					0		0								1	1	0	1	0	→ For BASS
					0		0								1	1	1	0	0	→ For TREBLE

Table 5-3

5-2 TUNER PERFORMANCE

5-2-1 General Description

(1) Functions

a) 20-Ch or 16-Ch Random Presetting of Stations
When initialized, discrimates between A45 and A35/25, and against A45, enables 10 stations each front (1 to 10) and back (11 to 20) or a total of 20 stations to be preset, while against A35/25, enables 8 stations each front (1 to 8) and back (9 to 16) or a total of 16 stations to be preset. The presetting permits the random storage of station data irrespective of band, and for FM stations, the MONO/STEREO segregating data will also be contained in the storage.

b) Two Tuning Styles: AUTO and MANUAL
The AUTO Scan Tuning that once the UP/DOWN key is pushed, will continue scanning until a station is captured, and once it is captured, will stop scanning, and the MANUAL Tuning that will scan only when the key is held down, and when it is released, will stop scanning, are the two tuning styles enabled.
(LW is shifted in 1K steps for MANUAL and 9K steps for AUTO.)

c) Switching of MONO and STEREO Receiving Modes
The MONO/STEREO mode switching function has been incorporated for FM reception, and is also included in the stored station presetting data.

5-2-2 Acceptance of Key Input

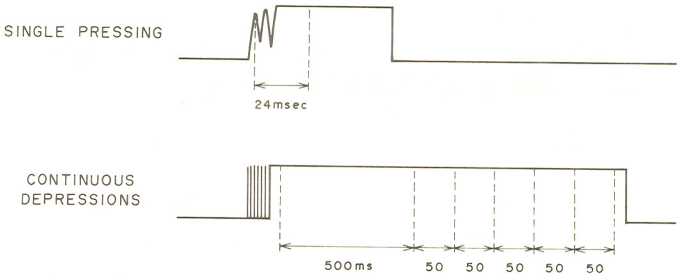


Fig. 5-4

- Chatterings will be absorbed for 24 msec.
- Continuous depressions will be accepted first at 24 msec after the depression start, second at 500 msec after the first, and then at every 50 msec thereafter.
- All multiple depressions shall be inhibited. Once a multiple depression is made, no key inputs will be accepted until after all of the depressed keys have been released.

5-2-3 Initial Setting (RST Mode)

a) FL Display:

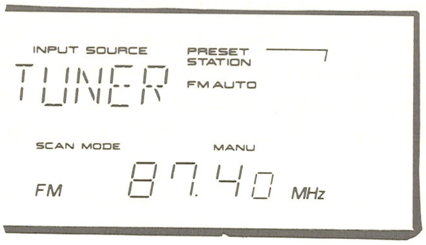


Fig. 5-5

b) The received frequency will be at the lowest in the FM band for each destination:
c) The mode will be STEREO (FM AUTO).
d) The scan mode will be MANUAL.
e) All the preset channels will be at the lowest FM frequency.
f) The last frequencies of individual bands of the tuner will be the lowest frequencies.

5-2-4 Status in a Backup Mode

Basically, the status immediately before engaging the backup will all be sustained, but slight deviations will be involved, as listed below.

a) When a backup mode is engaged during AUTO SCAN, the scanning will stop.
b) When a backup mode is engaged in a storage standby mode, the standby will be disengaged.
c) The pre-backup status will be sustained for about 3 weeks.

5-2-5 Active and Non-Active Modes at Tuner

(1) Active Mode

This is a mode after the data has been transmitted to the microcomputer (A1007A) of AMP to have the input selector of AMP switched to TUNER, that is, a mode where all the tuner performance has been enabled.

The data for the microcomputer of AMP will be transmitted from port $R4_1$ (A1007T Pin 2) when the BAND, UP/DOWN, and Preset CH keys have been pushed, and its timing will be as illustrated below.

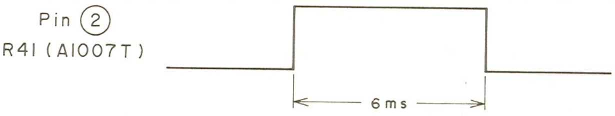


Fig. 5-6

(2) Non-Active Mode

This is a mode where the tuner performance has been partially constrained. It is engaged by detecting an [H] level of the line connected to $R7_2$ (A1007T Pin 15) of the subject microcomputer, which has been brought about by the microcomputer of AMP in switching the input selector of AMP to other than TUNER, either PHONO or CD, and by juding the tuner thereby not to be listened to.

Relative to the display, the frequency display will be extinguished, and bars displayed instead, to signify a non-active mode.

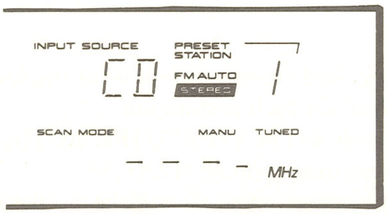

INPUT SOURCE
PRESET STATION
CD
FM AUTO
STEREO
7
SCAN MODE
MANU
TUNED
– – – –
MHz

Fig. 5-7

Relative to the operating performance, will accept only the BAND, UP/DOWN, and Preset CH keys, and reject all the other keys.

5-2-6 Auto-Tuning

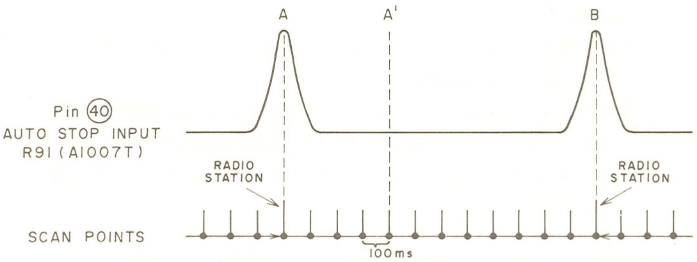

A
A'
B
Pin ㊵
AUTO STOP INPUT
R91 (A1007T)
RADIO STATION
RADIO STATION
SCAN POINTS
100ms

Fig. 5-8

The starting point in auto tuning modes may either be a broadcast receiving point or a point where no broadcast is received.

Since stopping the scan merely at an [H] level of the auto-stop signal may therefore cause nonconformities, the process employed is to stop scanning only when the auto-stop signal has first dropped to an [L] level after the scanning start and then has climbed to an [H] level.

The scanning speed is about 100 msec per step. The step will be a single channel spacing in the receiving band that varies by destination. Auto-scanning of LW, however, is an exception to this rule and 9 kHz steps have been assigned to it, where fixed points 9N+2 or 9N (N = an integer) will be scanned.

In other words, against any given point selected earlier by a manual scan, the scanning start when an auto-scanning mode is engaged will always be at a point 9N+2 or 9N.

5-2-7 Tuner Output Muting

This microcomputer will mute the tuner signal when the BAND data or PLL data is changed by the [BAND], [UP], [DOWN], [MODE], or Preset CH key, or when the receiving mode is changed.

In the muting process, when 50 msec have elapsed since the initial muting start, data transfer and other processings will be made, and then, 450 msec after these processes have been concluded, the muting will be disengaged. We will call the initial part "pre-muting" and the latter trailing part "after-muting".

The diagram below illustrates the above arrangement.

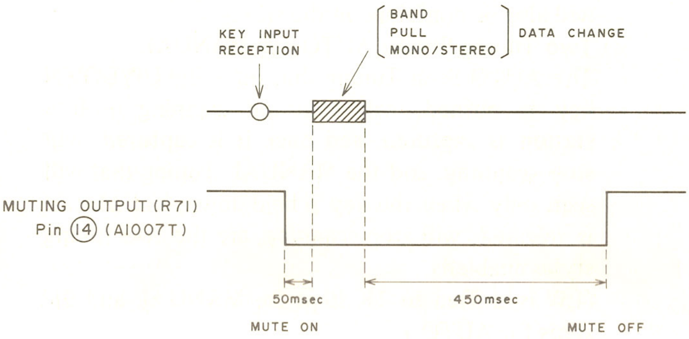

KEY INPUT RECEPTION
BAND
PULL
MONO/STEREO
DATA CHANGE
MUTING OUTPUT (R71)
Pin ⑭ (A1007T)
50msec
450msec
MUTE ON
MUTE OFF

Fig. 5-10

As exceptional cases, when an earlier muting process is still ongoing upon receipt of another key input, the 50 msec pre-muting will be omitted.

5-2-8 Key Processing

(1) [BAND]

Each single press of this key will switch the band. The selecting sequences will be as follows:

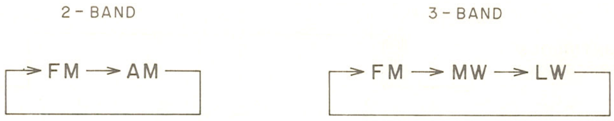

2-BAND
FM → AM
3-BAND
FM → MW → LW

Fig. 5-11

(2) [UP], [DOWN]

In a manual scan mode, each single pressing of either of these keys will shift the receiving frequency by a step, and its continuous depression will have the band scanned at 50 msec per step. In a AUTO scan mode, the band will be scanned at 100 msec per step until a station is captured, at which time an auto-stop of the scanning will be exercised. In an auto-scan mode, as soon as any other key than [UP] and [DOWN] is pushed, the scanning will be stopped at that point.

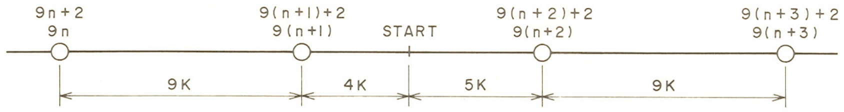

9n+2
9n
9(n+1)+2
9(n+1)
START
9(n+2)+2
9(n+2)
9(n+3)+2
9(n+3)
9K
4K
5K
9K

Fig. 5-9

(3) Preset CH Key

a) When the Tuner is in an Active Mode:

Except when at standby for storage, a single pressing of one of the preset channel keys will load the front (1 to 8) and back (9 to 16) side channels under that key alternately, and the FLD will display the number of the channel thus loaded.

When at standby for storage, the frequency currently being received will be stored in either the front (1 to 8) or back (9 to 16) side memory until under the key that has been pushed, and the storage standby mode will then be disengaged.

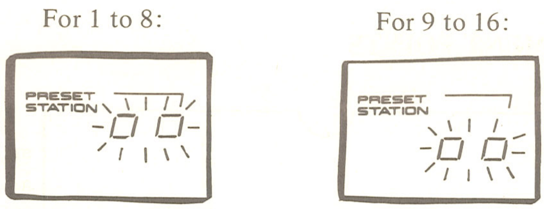
b) When the Tuner is in a Non-Active Mode:

A push of one of the keys will have the front side preset channel (1 to 8) under that key loaded, and have data transmitted to the microcomputer of AMP to switch the input selector of AMP to TUNER.

However, when in the last active mode of the tuner, a back side (9 to 16) channel had been listened to, and that channel key is now pushed, the loading effected will not be that of the front side (1 to 8) but of the back side (9 to 16) channel.

(4) [MEMO 1 – 8], [MEMO 9 – 16]

These are the keys for storing a channel frequency data in the Preset CH, and used for channels 1 to 8 and 9 to 16, respectively. Specifically, when either of the keys is pushed, the MEMO Indicator will be lit, and the channel number display flashed on and off, to alert the operator as to which side of the Preset CH key, 1 to 8 or 9 to 16, is being operated.


For 1 to 8:

For 9 to 16:

Fig. 5-12

The above mode will be sustained for 5 seconds, and the flashing repeated for 10 times at a 1/2 duty. When, however, the Preset CH key is pushed for data storage, or when any other key is pushed, the storage standby mode will be instantly disengaged.

When the tuner is in a non-active mode, nothing will occur.

(5) [MODE]

Each single pressing of this key will switch the FM reception between MONO and STEREO from one to the other.

When the tuner is in a non-active mode, nothing will occur.

(6) [SCAN MODE]

Each single pressing of this key will switch the scan mode between AUTO and MANUAL from one to the other, and due indications made at the same time.

IV. TUNER ADJUSTMENT

6-1 THE INSTRUMENT CONNECTIONS

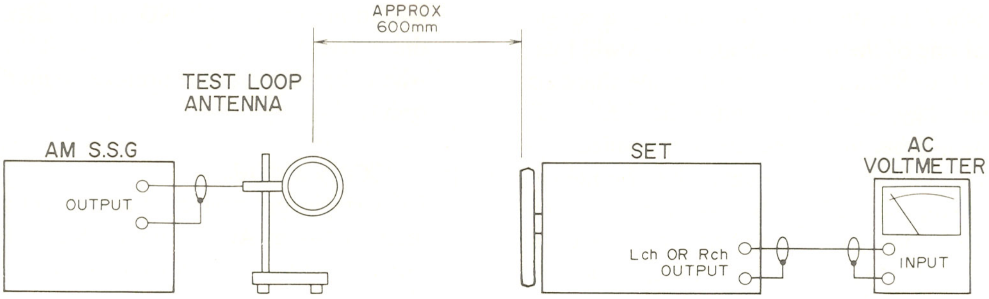

APPROX
600mm
TEST LOOP
ANTENNA
AM S.S.G
OUTPUT
SET
Lch OR Rch
OUTPUT
AC
VOLTMETER
INPUT

Fig. 6-1 Instrument Connections for AM (MW, LW) Section Adjustment

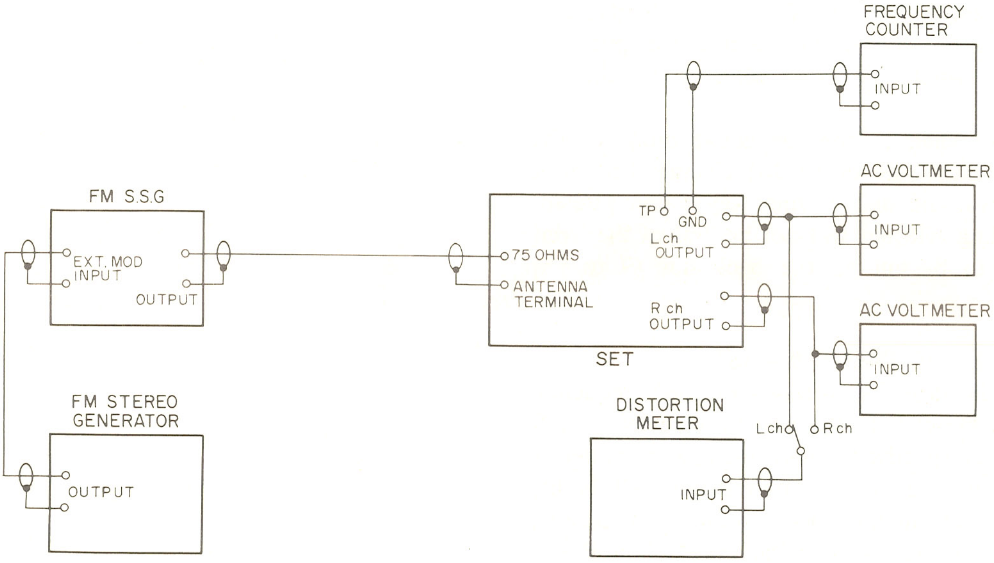

FREQUENCY
COUNTER
INPUT
AC VOLTMETER
INPUT
AC VOLTMETER
INPUT
FM S.S.G
EXT. MOD
INPUT
OUTPUT
TP
GND
L ch
OUTPUT
75 OHMS
ANTENNA
TERMINAL
R ch
OUTPUT
SET
FM STEREO
GENERATOR
OUTPUT
DISTORTION
METER
INPUT
Lch
Rch

Fig. 6-2 Instrument Connections for FM Section Adjustment

6-2 TUNER, FRONT END, MPX PC BOARD ADJUSTMENT POINTS

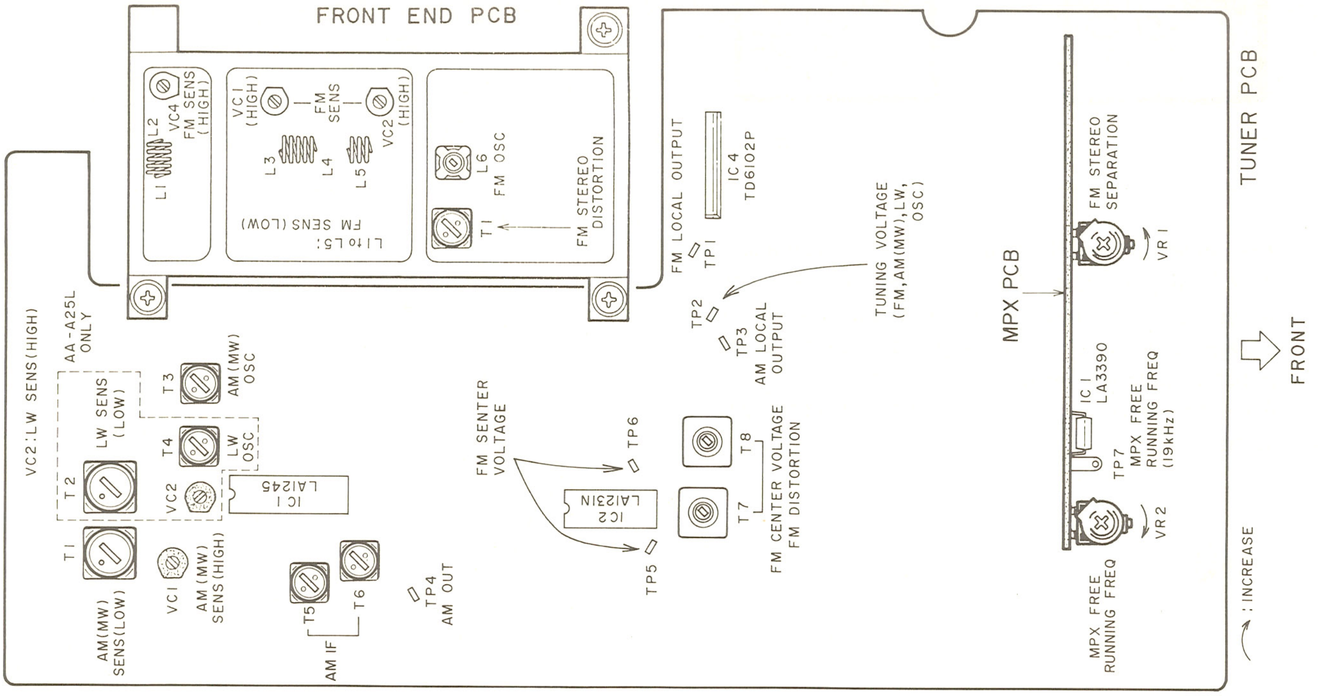

FRONT END PCB
L1
L2
VC4
FM SENS
(HIGH)
VC1
(HIGH)
FM
SENS
VC2
(HIGH)
L3
L4
L5
L1 to L5:
FM SENS (LOW)
L6
FM OSC
T1
FM STEREO
DISTORTION
FM LOCAL OUTPUT
TP1
IC4
TD6102P
TUNING VOLTAGE
(FM, AM(MW), LW,
OSC)
TP2
TP3
AM LOCAL
OUTPUT
MPX PCB
TUNER PCB
FM STEREO
SEPARATION
VR1
IC1
LA3390
TP7
MPX FREE
RUNNING FREQ
(19kHz)
VR2
MPX FREE
RUNNING FREQ
FRONT
: INCREASE
VC2:LW SENS (HIGH)
AA-A25L
ONLY
LW SENS
(LOW)
T3
AM(MW)
OSC
T4
LW
OSC
T2
VC2
IC1
LA1245
T1
AM(MW)
SENS (LOW)
VC1
AM(MW)
SENS (HIGH)
T5
T6
AM IF
TP4
AM OUT
FM SENTER
VOLTAGE
TP6
IC2
LA1231N
TP5
T8
T7
FM CENTER VOLTAGE
FM DISTORTION

Fig. 6-3

6-3 HOW TO CALL THE PRESET FREQUENCY FOR THE TUNER ADJUSTMENT

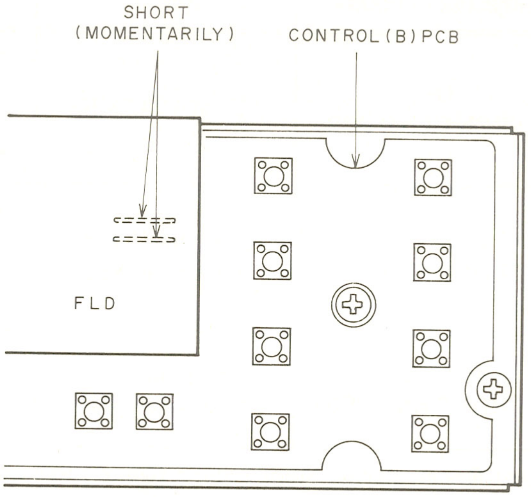


Fig. 6-4

Tuner preset frequencies for adjusting RF, IF and FM demodulator are able to preset as follows insted of operating TUNING control button to get the test frequencies from Signal Generator.

Short-circuit momentarily two test points shown in Fig. 6-4. Then select required test frequency by pushing one of the Preset Station buttons according to Chart 6-1.

		PRESET STATION CH							
	Buttons / CH	1/9	2/10	3/11	4/12	5/13	6/14	7/15	8/16
USA & CANADA	1 to 8	AM 600kHz	AM 1000kHz	AM 1400kHz	FM 88.0MHz	FM 90.0MHz	FM 98.0MHz	FM 105.0MHz	FM 108.0MHz
	9 to 16	AM 530kHz	AM 1000kHz	AM 1611kHz	FM 87.4MHz	FM 90.0MHz	* FM 98.0MHz	FM 106.0MHz	FM 108.1MHz
EUROPE 3 BAND	1 to 8	MW 603kHz	MW 999kHz	MW 1404kHz	FM 88.0MHz	FM 90.0MHz	FM 98.0MHz	FM 106.0MHz	FM 108.0MHz
	9 to 16	MW 522kHz	MW 999kHz	MW 1611kHz	LW 146kHz	LW 160kHz	LW 200kHz	LW 300kHz	LW 353kHz
EUROPE 2 BAND UNIVERSAL AREA	1 to 8	AM 603kHz	AM 999kHz	AM 1404kHz	FM 88.0MHz	FM 90.0MHz	FM 98.0MHz	FM 106.0MHz	FM 108.0MHz
	9 to 16	AM 522kHz	AM 999kHz	AM 1611kHz	FM 87.4MHz	FM 90.0MHz	* FM 98.0MHz	FM 106.0MHz	FM 108.1MHz
SOUTH AFRICA	1 to 8	AM 603kHz	AM 999kHz	AM 1404kHz	FM 88.0MHz	FM 90.0MHz	FM 98.0MHz	FM 106.0MHz	FM 108.0MHz
	9 to 16	AM 522kHz	AM 999kHz	AM 1011kHz	FM 87.4MHz	FM 90.0MHz	* FM 98.0MHz	FM 100.0MHz	FM 108.1MHz

* = FM AUTO

Chart 6-1

NOTE: For $\boxed{U}$, $\boxed{Y_1}$ model only, Set AM STEP SW to 9kHz, which located on the rear panel.

6-4 FM SECTION ADJUSTMENT

Step	Adjustment Item	Adjustment Point	Result	Remarks
1	FM OSC	L6 (in FRONT END PCB)	12V at 108.1MHz	Band SW to FM 108.1MHz Mono input. Display to 108.1MHz. Connect DC Voltmeter to TP2.
2	Low Range Sensitivity	L1 to L5 (in FRONT END PCB)	Less than 10dB input from SSG	FM mode SW to Mono 90MHz, Mono input. Display to 90MHz. 3% Distortion Factor.
3	High Range Sensitivity	VC1, 2, 4 (in FRONT END PCB)	Less than 10dB input from SSG	106MHz, Mono input. Display to 106MHz. 3% Distortion Factor.
4	For best Result, Repeat Steps 2 and 3 two or three times			
5	Middle Range Sensitivity (Confirmation)	None	Less than 10dB input from SSG	98MHz, Mono input. Display to 98MHz. 3% Distortion Factor.
6	FM Center Voltage	T7, T8	0V indication	DC Voltmeter between TP5 and TP6. Tune only noise without interference from broadcasting.
7	Distortion (Mono)	T7, T8	Less than 0.3%	98MHz, 60dB, Mono input. Display to 98MHz. Confirm that the DC Voltage between TP5 and TP6 is within 0 ± 0.025V.
8	MPX Free Running Frequency	VR2 (in MPX PCB)	19kHz	98MHz, 60dB Stereo input. Display to 98MHz. Connect Frequency Counter to TP7 (in MPX PCB).
9	Stereo Separation	VR1 (in MPX PCB)	More than 38dB	98MHz, 60dB, Stereo L-CH (R-CH) input: Display to 98MHz. Minimum output of R-CH (L-CH)
10	Distortion (Stereo)	T1 (in FRONT END PCB), T7, T8	Less than 0.5%	98MHz, 60dB Stereo (L-CH or R-CH) input. Display to 98MHz. Confirm that the DC voltage between TP5 and TP6 within 0 ± 0.025V.

NOTES:
1. Set the internal modulation signal generator to 100% (75kHz dev. (in Europe) 40kHz dev.), 1kHz of each.
2. Adjust T1 (Front End), if the proper distortion (STEREO) could not obtained in step 10. (Confirm FM Sensitivity in case is turned more than a half turn).

6-5 LW SECTION ADJUSTMENT (for AA-A25L)

Step	Adjustment Item	Adjustment Point	Result	Remarks
1	LW OSC	T4	7.0V at 353kHz	Band SW to LW. 353kHz input. Display to 353kHz. Connect DC Voltmeter to TP2.
2	Low Range Sensitivity	T2	Less than 65 dB input from SSG	160kHz input. Display to 160kHz. 10% Distortion Factor.
3	High Range Sensitivity	VC2	Less than 65dB input from SSG	300kHz input. Display to 300kHz. 10% Distortion Factor.
4	**For best Result, Repeat steps 2 and 3 two or three times**			
5	Middle Range Sensitivity (Confirmation)	None	Less than 65dB input from SSG	200kHz input. Display to 200kHz. 10% Distortion Factor.
6	Distortion (Confirmation)	None	Less than 2.5%	200kHz, 74dB input. Display to 200kHz.

NOTE: Set the internal modulation signal generator to 30%, 1kHz of each.

6-6 AM (MW) SECTION ADJUSTMENT

Step	Adjustment Item	Adjustment Point	Result	Remarks
1	AM (MW) OSC (See NOTE 3)	T3	6.7V at 1400kHz (1404kHz)	Band SW to AM (MW) 1400kHz, (1404kHz) input. Display to 1400kHz (1404kHz). Connect DC Voltmeter to TP2.
2	Low Range Sensitivity	T1	Less than 60dB input from SSG	600kHz (603kHz) input. Display to 600kHz (603kHz) 10% Distortion Factor.
3	High Range Sensitivity	VC1	Less than 60dB input from SSG	1400kHz (1404kHz) input. Display to 1400kHz (1404kHz). 10% Distortion Factor.
4	**For best Result, Repeat steps 2 and 3 two or three times**			
5	Middle Range Sensitivity (Confirmation)	None	Less than 60dB input from SSG	1000kHz (999kHz) input. Display to 1000kHz (999kHz) 10% Distortion Factor.
6	Distortion (Confirmation)	None	Less than 2.0%	1000kHz, (999kHz) 74dB input. Display to 1000kHz (999kHz).
7	AM IF	T5, T6	Maximum output Minimum Distortion	1000kHz (999kHz) 74dB input. Display to 1000kHz (999kHz).

NOTES: 1. Set the internal modulation signal generator to 30%, 1kHz of each.
2. (kHz) in Result & Remarks indicates the test frequencies in AM 9kHz STEP area.
3. **For the model AA-A25L, adjust LW OSC prior to this adjustment for the best result.**

VII. PC BOARD TITLES AND IDENTIFICATION NUMBERS

MODEL AA-A25

PC Board Title	PC Board Number	Remarks
MAIN AMP PC BOARD	A1007A501A A1007A508A A1007A509A	$\boxed{U, Y_1}$ $\boxed{C, A}$ $\boxed{E, V, S}$
POWER PC BOARD	A1007A501B A1007A508B A1007A509C	$\boxed{U, Y_1}$ $\boxed{C, A}$ $\boxed{E, V, S}$
HEAD PHONE PC BOARD	A1007A501E	
SPEAKER PC BOARD	A1007A501G	$\boxed{U, C, A, E, S, Y_1}$
FILTER PC BOARD	A1007A509D	$\boxed{V}$
CONTROL (A) PC BOARD	A1007A504A	
CONTROL (B) PC BOARD	A1007A504B	
PRE AMP PC BOARD	A1007B503A	
PIN JACK PC BOARD	A1007B503B	
TUNER PC BOARD	A1007B502A	$\boxed{U, C, A, E, V, S, Y_1}$
MPX PC BOARD	A1007B507B	
FRONT END PC BOARD	A3040A5200	

MODEL AA-A25/L

PC Board Title	PC Board Number	Remarks
MAIN AMP PC BOARD	A1007A509A	$\boxed{B, E}$
POWER PC BOARD	A1007A509C	$\boxed{B, E}$
HEAD PHONE PC BOARD	A1007A501E	
SPEAKER PC BOARD	A1007A501G	
CONTROL (A) PC BOARD	A1007A504A	
CONTROL (B) PC BOARD	A1007A504B	
PRE AMP PC BOARD	A1007B503A	
PIN JACK PC BOARD	A1007B503B	
TUNER PC BOARD	A1007B507A	$\boxed{B, E}$
MPX PC BOARD	A1007B507B	
FRONT END PC BOARD	A3040A5200	

SECTION 2

PARTS LIST

TABLE OF CONTENTS

RECOMMENDED SPARE PARTS 21
1. TUNER PC BOARD BLOCK 22
2. FRONT END PC BOARD BLOCK 22
3. PRE AMP PC BOARD BLOCK 23
4. MAIN AMP PC BOARD BLOCK 23
5. CONTROL PC BOARD BLOCK 23
6. ASSEMBLY BLOCK 24
7. FINAL ASSEMBLY BLOCK 26
INDEX 27

Resistors and Capacitors which are not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

ATTENTION

1. When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Parts List may be partially changed, please use this parts list for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List shows the parts that are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts". Select and order such parts from the "Common List for Service Parts".
2. The Recommended Spare Parts shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not be supplied in principle.
4. How to read list

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK GX-F66R
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	CS ANGLE ADJUST SPRING

SP (Service Parts) Classification

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure

This number corresponds with the Figure Number

b) P.C Board Block

6. SYS. CON. P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-1	BA-T2034A070A	PC SYS CON BLK GX-F44R
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-IC3	EI-331661	IC SN7405N
6-IC4	EI-336725	IC M54527P
6-TR1to4	ET-200985	TR 2SC2603 F,G
6-TR5to28	ET-554657	TR 2SA733A P,Q
6-D1	ED-318292	D SILICON H 1S2473T-77 T26
6-D2to4	ED-308952	D GERMA V 1K34A-LR F07
6-D5to10	ED-318292	D SILICON H 1S2473T-77 T26
6-X1	EI-318384	OSC X'TAL NC-18C 3.579545MHZ

SP (Service Parts) Classification

This reference numbers corresponds with symbol numbers of Schematic Diagrams.

5. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List. It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

NO.		PARTS NO.	DESCRIPTION
1	N	BT-351481	⚠ TRANS POWER AA-A25T-30(C,A)
2	N	BT-351482	⚠ TRANS POWER AA-A25T-40 (E,V,LE)
3	N	BT-351483	⚠ TRANS POWER AA-A25T-50 (S,LB)
4	N	BT-351484	⚠ TRANS POWER AA-A25T-70 (U,Y1)
5		EC-352419	C S-FIX H T203N100E 2.1-10
6		EC-330692	C S-FIX H T203R200E 4.2-20
7		ED-200213	D SILICON DBA40C-K15 200/2.6A
8		ED-345555	D SILICON DBB10C 200/1.0A
9		ED-301911	D SILICON H DS448
10		ED-344280	D SILICON H GMA-01-FY2 F05
11		ED-348205	D SILICON V MC931 DOUBLE
12		ED-349460	D VARACTER SVC321 C,D
13		ED-336832	D VARACTER SVC211SP
14		ED-328486	D ZENER H HZ15 3
15		ED-316540	D ZENER H HZ20 1
16		ED-346624	D ZENER H HZ30 2
17		ED-337292	D ZENER H HZ5 B1
18		ED-346603	D ZENER H HZ6 A1
19		ED-331617	D ZENER H HZ6 A3
20		ED-319167	D ZENER H HZ6 C3
21		ED-346604	D ZENER H HZ7 B2
22		ED-302295	D ZENER H HZ7 C3
23		EF-668474	⚠ FUSE SEMKO T 250V 0.40A (E,V,S,LE,LB)
24		EF-602550	⚠ FUSE SEMKO T 250V 1.25A (E,V,S,LE,LB)
25		EF-601301	⚠ FUSE SEMKO T 250V 2.00A (E,V,S,LE,LB)
26		EF-311839	⚠ FUSE TSC A 250V 1.60A (U,Y1)
27		EF-306951	⚠ FUSE TSC A 250V 2.50A (U,Y1)
28		EF-309390	⚠ FUSE TSC 125V 0.50A (C,A)
29		EF-306956	⚠ FUSE TSC 125V 2.50A (C,A)
30		EF-306957	⚠ FUSE TSC 125V 4.00A (C,A)
31		EH-337327	FILTER CE BFU459C4N 0.459MHZ (EXCEPT C,A)
32		EH-337328	FILTER CE BFU460C4N 0.46MHZ (C,A)
33		EH-338338	FILTER CE MS3GKY-A 10.700MHZ (V,LE)
34		EH-336804	FILTER CE SFE10.7MA8 10.7MHZ (U,Y1,C,A,E,S,LB)
35		EH-315407	FILTER CE SFE10.7MMKA 10.7MHZ
36		EH-343352	FILTER CE SFU459B9 0.459MHZ (EXCEPT C,A)
37		EH-343353	FILTER CE SFU460B9 0.460MHZ (C,A)
38		EH-336830	FILTER LC LP BL-34HD (V)
39		EH-341654	FILTER LC LP 42W-1001
40	N	EI-353059	IC A1007A2
41	N	EI-351969	IC A1007T
42		EI-322248	IC LA1231N
43		EI-202218	IC LA1245
44		EI-343349	IC LA3390
45		EI-343417	IC LB1294
46		EI-345479	IC LC7910
47		EI-349719	IC M5218P
48		EI-344764	IC M5218P-21
49		EI-348785	IC M5220L
50		EI-346122	IC STK4833
51		EI-336717	IC TC9125BP
52		EI-343373	IC TC9156P
53		EI-349392	IC TC9164N
54	N	EI-351966	IC TC9176P
55		EI-315381	IC TD6102P
56		EI-327074	OSC X'TAL HC-18/U 9.000000MHZ
57	N	EM-351967	IND FL BG-214ZK DOUBLE
58		EO-353176	COIL IFT PEGK0008B-01 455.0KHZ
59		EO-337640	COIL IFT 119AC-15533X 10.7MHZ
60		EO-202216	COIL IFT 7MC-6733C 460.0KHZ
61		EO-337598	COIL VARI 2 25A-1353-01
62		EO-337599	COIL VARI 2 25A-1354-03
63		ER-326169	⚠ R FUSE ERD2FC S10 1/4W 22R0G
64		ER-328278	⚠ R FUSE ERD2FC 1/4W 10R0G
65		ES-349070	⚠ SW SELECT YKS11-0002 02-4(U,Y1)
66	N	ES-351965	SW PUSH ESB8215V
67	N	ES-351964	SW PUSH SUL221A 2-THROW
68		ES-347122	SW SLIDE 00420569 2-04-2S (U,Y1)
69		ES-344445	SW TACT EVQ-QHR12B
70		ES-336780	SW TACT KHH10902
71		ET-349449	TR FET 2SK161 O,Y
72		ET-423224	TR FET 2SK19 BL
73		ET-336864	TR FET 2SK223 F
74		ET-337759	TR FET 2SK246 GR
75		ET-337743	TR FET 3SK107 E
76		ET-345626	TR 2SA1248 S,T
77		ET-322244	TR 2SA608K-NP F,G
78		ET-308141	TR 2SC2603 G
79		ET-338410	TR 2SC2878 A,B
80		ET-336869	TR 2SC2999 C,D
81		ET-336935	TR 2SC3000 D2,E,F
82	N	ET-353366	TR 2SC3112 A,B
83		ET-345625	TR 2SC3116 S,T
84		ET-349081	TR 2SC3383 S,T
85		ET-403413	TR 2SC536NP H
86		ET-328265	TR 2SC930 F
87		ET-349459	TR 2SD1406 O,Y,GR
88		ET-208012	TR 2SD571 K
89	N	EV-344828	R S-FIX V RVF8 W01 3P 203
90	N	EV-352088	R S-FIX V RVF8 W01 3P 103

"NOTE" N: New Parts

SYMBOL FOR DESTINATION

A : AAL (U.S.A)
B : UK (England)
C : CSA (Canada)
E : CEE (Europe)
S : SAA (Australia)
U : U/T (Universal Area)
V : VDE (West Germany)

1. TUNER PC BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
1-1U	BA-A1007A060A	PC TUNER BLK AA-A25(U,Y1)
1-1C	BA-A1007A060B	PC TUNER BLK AA-A25(C,A)
1-1E	BA-A1007A060C	PC TUNER BLK AA-A25(E,S)
1-1V	BA-A1007A060D	PC TUNER BLK AA-A25(V)
1-1LE	BA-A1007A060E	PC TUNER BLK AA-A25L(E)
1-1LB	BA-A1007A060F	PC TUNER BLK AA-A25L(B)

TUNER PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION
1-IC1	EI-202218	IC LA1245
1-IC2	EI-322248	IC LA1231N
1-IC3	EI-336717	IC TC9125BP
1-IC4	EI-315381	IC TD6102P
1-TR1	ET-338410	TR 2SC2878 A,B (LE,LB)
1-TR2to4	ET-403413	TR 2SC536NP H (LE,LB)
1-TR5	ET-423224	TR FET 2SK19 BL (LE,LB)
1-TR6	ET-336935	TR 2SC3000 D2,E,F
1-TR7	ET-322244	TR 2SA608K-NP F,G
1-TR8to10	ET-403413	TR 2SC536NP H
1-TR11,12	ET-353366	TR 2SC3112 A,B
1-TR13,14	ET-403413	TR 2SC536NP H
1-TR15	ET-322244	TR 2SA608K-NP F,G
1-TR16	ET-308141	TR 2SC2603 G (V)
1-TR17	ET-349081	TR 2SC3383 S,T
1-TR18	ET-336864	TR FET 2SK223 F
1-TR19	ET-349081	TR 2SC3383 S,T
1-D1,2	ED-349460	D VARACTER SVC321 C,D
1-D3,4	ED-344280	D SILICON H GMA-01-FY2 F05 (LE,LB)
1-D5	ED-348205	D SILICON V MC931 DOUBLE
1-D6	ED-301911	D SILICON H DS448
1-D7,8	ED-344280	D SILICON H GMA-01-FY2 F05
1-D9	ED-301911	D SILICON H DS448
1-D10	ED-344280	D SILICON H GMA-01-FY2 F05
1-D11	ED-301911	D SILICON H DS448
1-D12	ED-302295	D ZENER H HZ7 C3
1-SW1	ES-344445	SW TACT EVQ-QHR12B
1-SW2	ES-347122	SW SLIDE 00420569 2-04-2S (U,Y1)
1-T1	EO-337598	COIL VARI 2 25A-1353-01
1-T2	EO-337599	COIL VARI 2 25A-1354-03 (LE,LB)
1-T3U	EO-348209	COIL OSC 2 7NR-8646Y 115.0 UH (U,Y1,C,A,E,V,S)
1-T3L	EO-349456	COIL OSC 2 7NRS-9153Z 150.0UH (LE,LB)
1-T4	EO-352089	COIL OSC 2 7BRS-9098X 580.0UH (LE,LB)
1-T5	EO-353176	COIL IFT PEGK0008B-01 455.0KHZ
1-T6	EO-202216	COIL IFT 7MC-6733C 460.0KHZ
1-T7	EO-349452	COIL DET 2 78-1045-01
1-T8	EO-349453	COIL DET 2 78-1046-01
1-FL1	EH-315407	FILTER CE SFE10.7MMKA 10.7MHZ
1-FL2U	EH-336804	FILTER CE SFE10.7MA8 10.7MHZ (U,Y1,C,A,E,S,LB)
1-FL2V	EH-338338	FILTER CE MS3GKY-A 10.700MHZ (V,LE)
1-FL3U	EH-343352	FILTER CE SFU459B9 0.459MHZ (EXCEPT C,A)
1-FL3C	EH-343353	FILTER CE SFU460B9 0.460MHZ (C,A)
1-FL4U	EH-337327	FILTER CE BFU459C4N 0.459MHZ (EXCEPT C,A)
1-FL4C	EH-337328	FILTER CE BFU460C4N 0.46MHZ (C,A)
1-FL5	EH-336830	FILTER LC LP BL-34HD (V)
1-X1	EI-327074	OSC X'TAL HC-18/U 9.000000MHZ
1-VC1	EC-330692	C S-FIX H TZ03R200E 4.2-20
1-VC2	EC-330692	C S-FIX H TZ03R200E 4.2-20 (LE,LB)
1-R5	ER-324185	⚠ R CB H S10 FS RDS 1/4W 221J
1-R6	ER-315046	⚠ R CB H F10 RDS 1/4W 121J
1-R34,35	ER-324337	⚠ R CB H S10 FS RDS 1/4W 560J
1-R36,37	ER-324480	⚠ R CB H S10 FS RDS 1/4W 470J
1-R52,53	ER-324337	⚠ R CB H S10 FS RDS 1/4W 560J
1-R86	ER-328067	⚠ R CB H S10 FS RDS 1/4W 331J (V)
1-R96	ER-315046	⚠ R CB H F10 RDS 1/4W 121J
1-R97	ER-324934	⚠ R CB H S10 FS RDS 1/4W 220J
1-C22	EC-351134	C PP V F05 PP 4300G 50DC
1-C23	EC-352097	C PP V F05 PP 2700G 50DC (LE,LB)
1-C59	EC-347591	C MMY V F05 MMH 474M 100DC
1-TM1	EJ-344423	TERMINAL W/SCREW YKD31-0133 P 2P

MPX PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION
1-IC1B	EI-343349	IC LA3390
1-TR1Bto3B	ET-349081	TR 2SC3383 S,T
1-D1B	ED-346603	D ZENER H HZ6 A1
1-D2Bto5B	ED-301911	D SILICON H DS448
1-VR1B	EV-344828	R S-FIX V RVF8 W01 3P 203
1-VR2B	EV-352088	R S-FIX V RVF8W01 3P 103
1-FL1B	EH-341654	FILTER LC LP 42W-1001
1-R1B,2B	ER-324337	⚠ R CB H S10 FS RDS 1/4W 560J
1-C4BU	EC-344486	C PP V F05 PP 391J 50DC (EXCEPT C,A)
1-C4BC	EC-344478	C PP V F05 PP 561J 50DC (C,A)
1-C5BU	EC-344486	C PP V F05 PP 391J 50DC (EXCEPT C,A)
1-C5BC	EC-344478	C PP V F05 PP 561J 50DC (C,A)
1-C6B,7B	EC-344155	C PP V F05 PP 181J 50DC (U,Y1)
1-C12B,13B	EC-344484	C PP V F05 PP 392J 50DC
1-C15B	EC-344483	C PP V F05 PP 102J 50DC

2. FRONT END PC BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1U	BA-A3040A040A	PC FRONT END BLK AT-M77 (U,C,A,E,S,LE,LB)
2-1V	BA-A3040A040D	PC FRONT END BLK AA-A25(V)
2-1Y1	BA-A3040A040F	PC FRONT END BLK AA-A25(Y1)

FRONT END PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION
2-TR1	ET-337743	TR FET 3SK107 E
2-TR2	ET-336869	TR 2SC2999 C,D
2-TR3	ET-328265	TR 2SC930 F
2-TR4	ET-349449	TR FET 2SK161 O,Y
2-D1to4	ED-336832	D VARACTOR SVC211SP
2-L1	EO-349461	COIL FIX 2 LINK
2-L2	EO-349462	COIL FIX 2 U147
2-L3	EO-349461	COIL FIX 2 LINK
2-L4,5	EO-349462	COIL FIX 2 U147
2-L6U	EO-349446	COIL OSC 2 TFE2-OSC-U (EXCEPT Y1)
2-L6Y1	EO-349447	COIL OSC 2 TFE2-OSC-J(Y1)
2-L7	EO-336934	COIL FIX 1 LAL03KH 2R2M
2-T1	EO-337640	COIL IFT 119AC-15533X 10.7MHZ
2-VC1,2	EC-352419	C S-FIX H TZ03N100E 2.1-10
2-VC4	EC-352419	C S-FIX H TZ03N100E 2.1-10
2-C26	EC-349083	C STY V CUT CQ09S2B 101J 125DC

3. PRE AMP PC BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
3-1U	BA-A1007A070A	PC PRE AMP BLK AA-A25 (U,C,A,E,B,S,L,Y1)
3-1V	BA-A1007A070B	PC PRE AMP BLK AA-A25(V)
	PRE AMP PC BOARD	
3-IC1	EI-344764	IC M5218P-21
3-IC2	EI-349392	IC TC9164N
3-IC3	EI-349719	IC M5218P
3-IC4	EI-351966	IC TC9176P
3-IC5,6	EI-343373	IC T9156P
3-D1,2	ED-346603	⚠ D ZENER H HZ6 A1
3-VL1	EO-337684	COIL FIX 2 FL12R751E 751K(V)
3-VL2	EO-345918	COIL FIX 1 LAL03KH 220K(V)
3-R12,13	ER-200944	⚠ R CB H S10 FS RDS 1/4W 152J
3-J1	EJ-336905	PIN J AJC-035-ACB P 4P
	PIN JACK PC BOARD	
3-VL1Bto4B	EO-345918	COIL FIX 1 LAL03KH 220K(V)
3-J1B,2B	EJ-336915	PIN J AJC-054-ABB P 4P

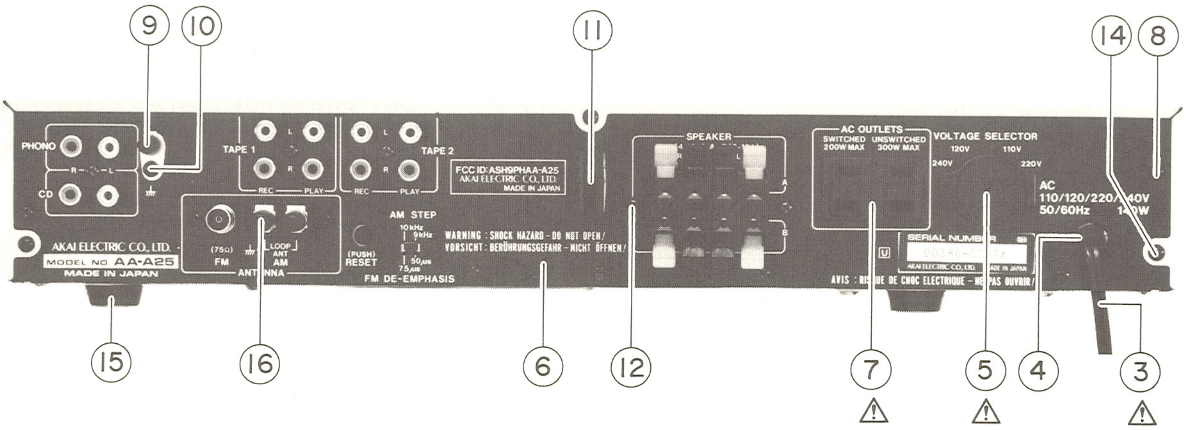
4. MAIN AMP PC BOARD BLOCK

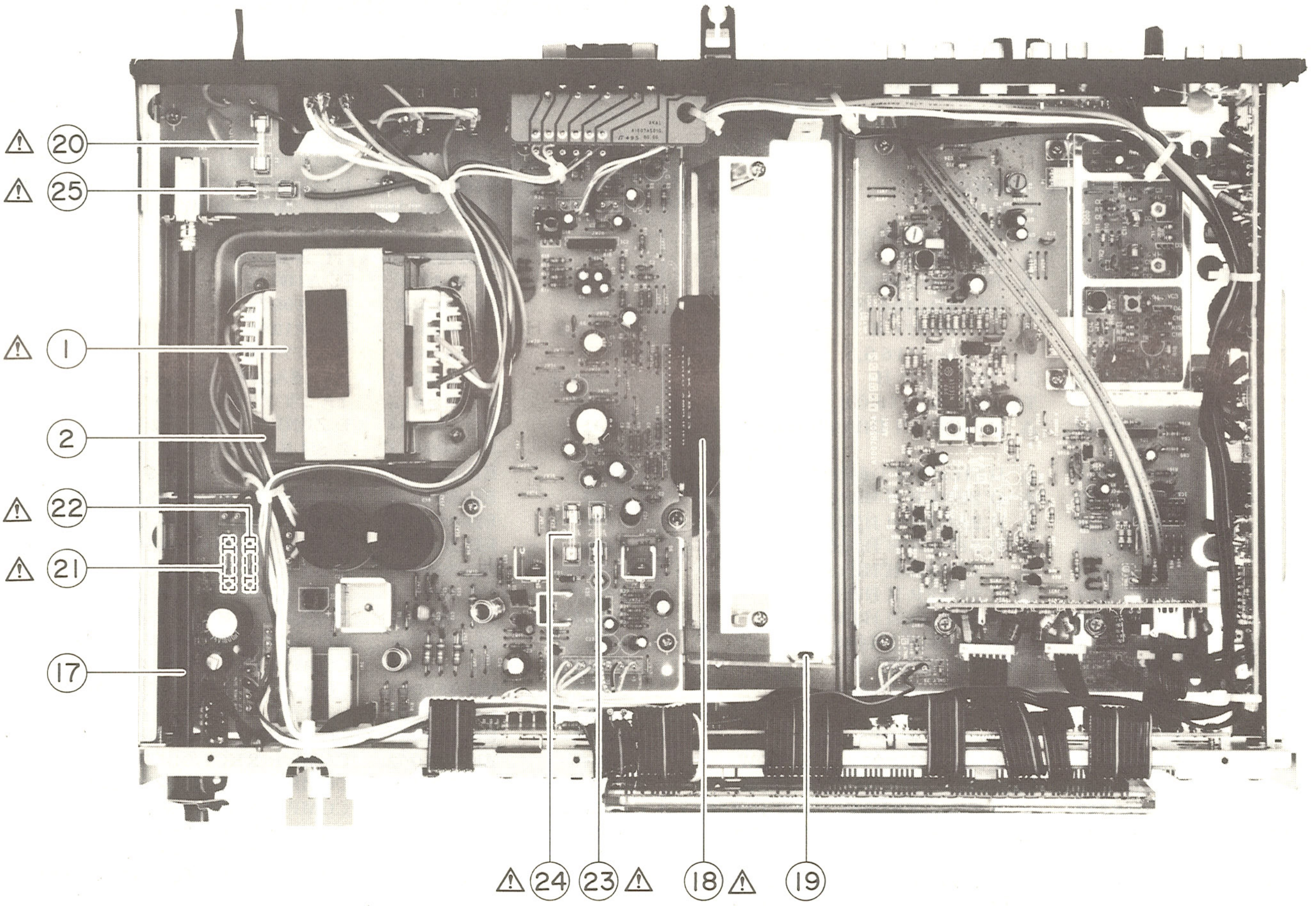
REF. NO.	PARTS NO.	DESCRIPTION
4-1U	BA-A1007A040A	PC MAIN AMP BLK AA-A25(U,Y1)
4-1C	BA-A1007A040B	PC MAIN AMP BLK AA-A25(C,A)
4-1E	BA-A1007A040C	PC MAIN AMP BLK AA-A25 (E,S,LE,LB)
4-1V	BA-A1007A040D	PC MAIN AMP BLK AA-A25(V)
	MAIN AMP PC BOARD	
4-IC2	EI-348785	IC M5220L
4-TR1	ET-322244	⚠ TR 2SA608K-NP F,G
3-TR2	ET-345625	⚠ TR 2SC3116 S,T
4-TR3,4	ET-345626	⚠ TR 2SA1248 S,T
4-TR5	ET-349459	⚠ TR 2SD1406 O,Y,GR
4-TR6	ET-208012	⚠ TR 2SD571 K
4-TR7	ET-345625	⚠ TR 2SC3116 S,T
4-TR8	ET-403413	TR 2SC536NP H
4-TR9	ET-337759	TR FET 2SK246 GR
4-D1	ED-200213	⚠ D SILICON DBA40C-K15 200/2.6A
4-D2	ED-345555	⚠ D SILICON DBB10C 200/1.0A
4-D3,4	ED-328486	⚠ D ZENER H HZ15 3
4-D5	ED-346624	⚠ D ZENER H HZ30 2
4-D6	ED-316540	⚠ D ZENER H HZ20 1
4-D7	ED-328486	⚠ D ZENER H HZ15 3
4-D8	ED-319167	⚠ D ZENER H HZ6 C3
4-D9	ED-331617	⚠ D ZENER H HZ6 A3
4-D10,11	ED-301911	D SILICON H DS448
4-D12	ED-337292	D ZENER H HZ5 B1
4-D13	ED-301911	D SILICON H DS448
4-D14	ED-337292	D ZENER H HZ5 B1
4-D15,16	ED-301911	D SILICON H DS448
4-SW1	ES-351964	SW PUSH SUL221A 2-THROW
4-L1	EO-337880	COIL FIX 2 202AK-018 2R2K
4-FR1	ER-328278	⚠ R FUSE ERD2FC 1/4W 10R0G
4-FR2,3	ER-326169	⚠ R FUSE ERD2FC S10 1/4W 22R0G
4-R9	ER-311685	⚠ R CB H S15 FS RDS 1/2W 4R7J
4-R13	ER-200940	⚠ R CB H S10 FS RDS 1/4W 671J
4-R17	ER-311685	⚠ R CB H S15 FS RDS 1/2W 4R7J
4-R18	ER-308028	⚠ R OMF H S15 FS 1W 181J
4-R28	ER-353359	⚠ R OMF H S15 FS 1W 392J
4-R32	ER-327710	⚠ R CB H S10 FS RDS 1/4W 151J
4-R35	ER-345659	R OMF H S15 FS 1W 272J
4-C9	EC-343855	C EC V F05 NP SM R22M 50.0DC
4-C10,11	EC-333971	C EC V F05 NP SM 2R2M 50DC
4-C19,20	EC-345605	C EC V S10 682M 45.0DC
4-C22	EC-326583	C MMY V CUT CF921 473K 400DC
4-C25	EC-325109	C EC V CUT SM 102M 50DC
4-C28	EC-201751	C EC V CUT USM 102M 50DC
	POWER PC BOARD (U,C,A,Y1)	
4-SW1B	ES-351965	⚠ SW PUSH ESB8215V(U,Y1,C,A)
4-R1B	ER-672816	⚠ R CB H RD 1/2W 225J(C,A)
4-C1B	EC-338411	⚠ C CE V FZ 103P 400AC (U,Y1,C,A)
	POWER PC BOARD(E,S,V,LE,LB)	
4-SW1C	ES-351965	⚠ SW PUSH ESB8215V (E,S,V,LE,LB)
4-L1C	EO-338409	COIL LF FKOB160MH02 250UH (V)
4-C1C	EC-338411	⚠ C CE V FZ 103P 400AC (E,S,V,LE,LB)
	FILTER PC BOARD	
4-L1D,2D	EO-342936	COIL BALUN (V)
	HEAD PHONE PC BOARD	
4-VL1E	EO-345918	COIL FIX 1 LAL03KH 220K (V)
4-J2E	EJ-351963	PHONE J 3P YKB21-5060 6.3
	SPEAKER PC BOARD	
4-TM1G	EJ-349401	TERMINAL LEVER YKD21-0027 8P (EXCEPT V)

5. CONTROL PC BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
5-1U	BA-A1007A020A	PC CONTROL BLK AA-A25(U)
5-1C	BA-A1007A020B	PC CONTROL BLK AA-A25(C,A)
5-1E	BA-A1007A020C	PC CONTROL BLK AA-A25(E,V,S)
5-1L	BA-A1007A020D	PC CONTROL BLK AA-A25L(E,B)
5-1Y1	BA-A1007A020E	PC CONTROL BLK AA-A25(Y1)
	CONTROL (A) PC BOARD	
5-IC1	EI-353059	IC A1007A2
5-IC2	EI-351969	IC A1007T
5-IC3,4	EI-343417	IC LB1294
5-IC5	EI-345479	IC LC7910
5-TR1,2	ET-322244	TR 2SA608K-NP F,G
5-TR3	ET-403413	TR 2SC536NP H(U)
5-D1	ED-346604	D ZENER H HZ7 B2
5-D2	ED-301911	D SILICON H DS448
5-D2	ED-301911	D SILICON H DS448
5-D3	ED-301911	D SILICON H DS448(U,C,A)
5-D4	ED-301911	D SILICON H DS448(U,E,V,S)
5-D5	ED-301911	D SILICON H DS448(LE,LB,Y1)
5-D6to16	ED-301911	D SILICON H DS448
5-D17	ED-301911	D SILICON H DS448(U)
5-D18	ED-301911	D SILICON H DS448(Y1)
5-X1,2	EI-352673	OSC X'TAL HC-49/U 4.1MHZ
5-SR1	EH-352048	COMP R RKC1/8B6 4.7K J
5-SR2,3	EH-352059	COMP R RKC1/8B6D 100K J
5-SR4	EH-352060	COMP R RKC1/8B3 4.7K J
5-SR5	EH-352061	COMP R RKC1/8B8D 100K J
5-SR6	EH-352062	COMP R RKC1/8B6 100K J
5-SR7	EH-352063	COMP R RKC1/8B4D 100K J
5-SR8,9	EH-351973	COMP R RKC1/8B4 4.7K J
5-SR10	EH-352064	COMP R RKC1/8B4 100K J
5-SR11	EH-351976	COMP R RKC1/8B7 4.7K J
5-C1	EC-344157	C DOUBLE LAYER 473Z 5.5DC
	CONTROL (B) PC BOARD	
5-SW1to30	ES-336780	SW TACT KHH10902
5-IN1	EM-351967	IND FL BG-214ZK DOUBLE

ASSEMBLY BLOCK

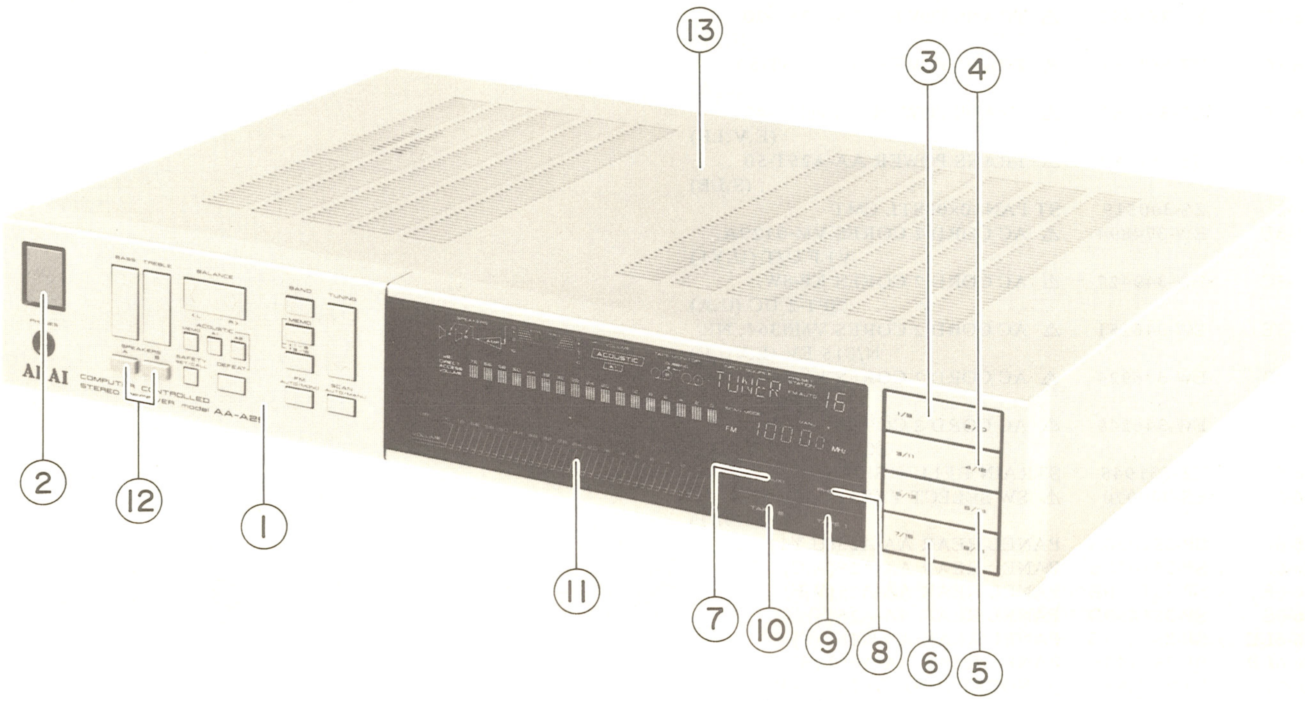

9
10
11
14
8
PHONO
CD
TAPE 1
TAPE 2
REC
PLAY
FCC ID:ASH9PHAA-A25
AKAI ELECTRIC CO., LTD.
MADE IN JAPAN
SPEAKER
A
B
AC OUTLETS
SWITCHED UNSWITCHED
200W MAX 300W MAX
VOLTAGE SELECTOR
120V 110V
240V 220V
AC
110/120/220/240V
50/60Hz 140W
SERIAL NUMBER
AKAI ELECTRIC CO., LTD.
MODEL NO AA-A25
MADE IN JAPAN
(75Ω)
FM
LOOP ANT
AM
ANTENNA
AM STEP
10kHz
9kHz
50µs
75µs
(PUSH)
RESET
FM DE-EMPHASIS
WARNING : SHOCK HAZARD - DO NOT OPEN /
VORSICHT : BERÜHRUNGSGEFAHR - NICHT ÖFFNEN /
AVIS : RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR /
15
16
6
12
7 ⚠
5 ⚠
4
3 ⚠


⚠ 20
⚠ 25
⚠ 1
2
⚠ 22
⚠ 21
17
⚠ 24
23 ⚠
18 ⚠
19

6. ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-1U	BT-351484	⚠ TRANS POWER AA-A25T-70 (U,Y1)
6-1C	BT-351481	⚠ TRANS POWER AA-A25-T-30 (C,A)
6-1E	BT-351482	⚠ TRANS POWER AA-A25T-40 (E,V,LE)
6-1B	BT-351483	⚠ TRANS POWER AA-A25T-50 (S,LB)
6-2	ZS-300519	ST PAN40×08STL CMT
6-3U	EW-374894	⚠ AC CORD 2 CORES VM-0129A, VFF U/T (U,Y1)
6-3C	EW-349427	⚠ AC CORD 2 CORES KP-8W, SPT-2 UC (C,A)
6-3E	EW-346251	⚠ AC CORD 2 CORES VM0364, NR N/815 EV (E,V,LE)
6-3S	EW-336924	⚠ AC CORD 2 CORES KP-560, LTSA-2F S (S)
6-3B	EW-346249	⚠ AC CORD 2 CORES LCFL2×0.75 B (L-B)
6-4	EZ-631945	STRAIN RELIEF SR-4N-4
6-5	ES-349070	⚠ SW SELECT YKS11-0002 02-4 (U,Y1)(SW901)
6-6U	SP-351450A	PANEL REAR AA-A25(U,Y1)
6-6C	SP-351450B	PANEL REAR AA-A25(A,C)
6-6E	SP-351450E	PANEL REAR AA-A25(V,E)
6-6S	SP-351450D	PANEL REAR AA-A25(S)
6-6LE	SP-351450G	PANEL REAR AA-A25L(E)
6-6LB	SP-351450F	PANEL REAR AA-A25L(B)
6-7U	EJ-343362	⚠ SOCKET OUTLET S2T732T174 JUC 2×2P (U,Y1)
6-7C	EJ-349837	⚠ SOCKET OUTLET S2T732T124 JUC (C,A)
6-8	ZS-308846	T2BR30×08STL BZN PROJECTION
6-9	EJ-329610	TERMINAL W/SCREW UB-0067 L 1P
6-10	ZS-308846	T2BR30×08STL BZN PROJECTION
6-11	SZ-332739	HOLDER ANTENNA
6-12	ZS-351886	PT BR30×10STL BNI
6-13x	EE-337976	ANT LOOP LA-200A
6-14	ZS-308846	T2BR30×08STL BZN PROJECTION
6-15	SA-202118	FOOT
6-16	EJ-344423	TERMINAL W/SCREW YKD31-0133 P 2P
6-17	TC-351442	JOINT POWER
6-18	EI-346122	⚠ IC STK4833
6-19	ZW-698308	RV NYL30×055 BL
6-20U	EF-311839	⚠ FUSE TSC A 250V 1.60A (U,Y1)(F1)
6-20C	EF-306957	⚠ FUSE TSC 125V 4.00A(C,A)(F1)
6-20E	EF-602550	⚠ FUSE SEMKO T 250V 1.25A (E,V,S,LE,LB)(F1)
6-21C	EF-309390	⚠ FUSE TSC 125V 0.50A(C,A)(F2)
6-21E	EF-668474	⚠ FUSE SEMKO T 250V 0.40A (E,V,S,LE,LB)(F2)
6-22C	EF-309390	⚠ FUSE TSC 125V 0.50A(C,A)(F3)
6-22E	EF-668474	⚠ FUSE SEMKO T 250V 0.40A (E,V,S,LE,LB)(F3)
6-23U	EF-306951	⚠ FUSE TSC A 250V 2.50A (U,Y1)(F4)
6-23C	EF-306956	⚠ FUSE TSC 125V 2.50A(C,A)(F4)
6-23E	EF-601301	⚠ FUSE SEMKO T 250V 2.00A (E,V,S,LE,LB)(F4)
6-24U	EF-306951	⚠ FUSE TSC A 250V 2.50A (U,Y1)(F5)
6-24C	EF-306956	⚠ FUSE TSC 125V 2.50A(C,A)(F5)
6-24E	EF-601301	⚠ FUSE SEMKO T 250V 2.00A (E,V,S,LE,LB)(F5)
6-25	EF-311839	⚠ FUSE TSC A 250V 1.60A (U,Y1)(F6)
6-26x	ZW-305013	RV POP32(C,A)

FINAL ASSEMBLY BLOCK



7. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
	PANEL FRONT BLOCK	
7-1	BD-A1007A050A	PANEL FRONT BLK AA-A25
7-1L	BD-A1007A050B	PANEL FRONT BLK AA-A25L
7-1P	BD-A1007A050C	PANEL FRONT BLK AA-A25-P
7-1LP	BD-A1007A050D	PANEL FRONT BLK AA-A25L-P
7-2	SK-343017C	KNOB POWER (2)
7-2P	SK-343017D	KNOB POWER (2)-P
7-3	SK-351445A	KNOB (A)
7-3P	SK-351445E	KNOB (A)-P
7-4	SK-351445B	KNOB (B)
7-4P	SK-351445F	KNOB (B)-P
7-5	SK-351445C	KNOB (C)
7-5P	SK-351445G	KNOB (C)-P
7-6	SK-351445D	KNOB (D)
7-6P	SK-351445H	KNOB (D)-P
7-7	SK-351446A	KNOB CD
7-8	SK-351446B	KNOB PHONO
7-9	SK-351446C	KNOB TAPE (1)
7-10	SK-351446D	KNOB TAPE (2)
	FINAL ASSEMBLY BLOCK	
7-11	EV-351497	VR SPL MEMBRANE VS-115-2 B105
7-12	SK-351443A	KNOB PUSH (B)
7-12P	SK-351443B	KNOB PUSH (B)-P
7-13	SP-351455A	COVER UPPER
7-13P	SP-351455B	COVER UPPER-P
7-14x	SA-356540	ROUND FOOT SET

SYMBOL FOR COLOR VARIATION

NON : STANDARD COLOR
P : PEARL SHADOW

INDEX

PARTS NO.	REF. NO.
BA-A1007A020A	5-1U
BA-A1007A020B	5-1C
BA-A1007A020C	5-1E
BA-A1007A020D	5-1L
BA-A1007A020E	5-1Y1
BA-A1007A040A	4-1U
BA-A1007A040B	4-1C
BA-A1007A040C	4-1E
BA-A1007A040D	4-1V
BA-A1007A060A	1-1U
BA-A1007A060B	1-1C
BA-A1007A060C	1-1E
BA-A1007A060D	1-1V
BA-A1007A060E	1-1LE
BA-A1007A060F	1-1LB
BA-A1007A070A	3-1U
BA-A1007A070B	3-1V
BA-A3040A040A	2-1U
BA-A3040A040D	2-1V
BA-A3040A040F	2-1Y1
BD-A1007A050A	7-1
BD-A1007A050B	7-1L
BD-A1007A050C	7-1P
BD-A1007A050D	7-1LP
BT-351481	6-1C
BT-351482	6-1E
BT-351483	6-1B
BT-351484	6-1U
EC-201751	4-C28
EC-325109	4-C25
EC-326583	4-C22
EC-330692	1-VC2
EC-330692	1-VC1
EC-333971	4-C11
EC-333971	4-C10
EC-338411	4-C1C
EC-338411	4-C1B
EC-343855	4-C9
EC-344155	1-C7B
EC-344155	1-C6B
EC-344157	5-C1
EC-344478	1-C4BC
EC-344478	1-C5BC
EC-344483	1-C15B
EC-344484	1-C12B
EC-344484	1-C13B
EC-344486	1-C4BU
EC-344486	1-C5BU
EC-345605	4-C20
EC-345605	4-C19
EC-347591	1-C59
EC-349083	2-C26
EC-351134	1-C22
EC-352097	1-C23
EC-352419	2-VC1
EC-352419	2-VC4
EC-352419	2-VC2
ED-200213	4-D1
ED-301911	1-D9
ED-301911	1-D6
ED-301911	1-D11
ED-301911	1-D2B
ED-301911	1-D3B
ED-301911	1-D5B
ED-301911	1-D4B
ED-301911	4-D11
ED-301911	4-D15
ED-301911	4-D10
ED-301911	4-D16
ED-301911	4-D13
ED-301911	5-D11
ED-301911	5-D14
ED-301911	5-D5
ED-301911	5-D18
ED-301911	5-D8
ED-301911	5-D4
ED-301911	5-D9
ED-301911	5-D2
ED-301911	5-D10
ED-301911	5-D6
ED-301911	5-D7
ED-301911	5-D17
ED-301911	5-D12
ED-301911	5-D15
ED-301911	5-D16
ED-301911	5-D3
ED-301911	5-D13
ED-302295	1-D12
ED-316540	4-D6
ED-319167	4-D8
ED-328486	4-D4
ED-328486	4-D3
ED-328486	4-D7
ED-331617	4-D9
ED-336832	2-D2
ED-336832	2-D1
ED-336832	2-D4
ED-336832	2-D3
ED-337292	4-D14
ED-337292	4-D12
ED-344280	1-D4
ED-344280	1-D3
ED-344280	1-D8
ED-344280	1-D7
ED-344280	1-D10
ED-345555	4-D2
ED-346603	1-D1B
ED-346603	3-D2
ED-346603	3-D1
ED-346604	5-D1
ED-346624	4-D5
ED-348205	1-D5
ED-349460	1-D1
ED-349460	1-D2
EE-337976	6-13x
EF-306951	6-23U
EF-306951	6-24U
EF-306956	6-23C
EF-306956	6-24C
EF-306957	6-20C
EF-309390	6-22C
EF-309390	6-21C
EF-311839	6-20U
EF-311839	6-25
EF-601301	6-23E
EF-601301	6-24E
EF-602550	6-20E
EF-668474	6-22E
EF-668474	6-21E
EH-315407	1-FL1
EH-336804	1-FL2U
EH-336830	1-FL5
EH-337327	1-FL4U
EH-337328	1-FL4C
EH-338338	1-FL2V
EH-341654	1-FL1B
EH-343352	1-FL3U
EH-343353	1-FL3C
EH-351973	5-SR8
EH-351973	5-SR9
EH-351976	5-SR11
EH-352048	5-SR1
EH-352059	5-SR3
EH-352059	5-SR2
EH-352060	5-SR4
EH-352061	5-SR5
EH-352062	5-SR6
EH-352063	5-SR7
EH-352064	5-SR10
EI-202218	1-IC1
EI-315381	1-IC4
EI-322248	1-IC2
EI-327074	1-X1
EI-336717	1-IC3
EI-343349	1-IC1B
EI-343373	3-IC6
EI-343373	3-IC5
EI-343417	5-IC3
EI-343417	5-IC4
EI-344764	3-IC1
EI-345479	5-IC5
EI-346122	6-18
EI-348785	4-IC2
EI-349392	3-IC2
EI-349719	3-IC3
EI-351966	3-IC4
EI-351969	5-IC2
EI-352673	5-X2
EI-352673	5-X1
EI-353059	5-IC1
EJ-329610	6-9
EJ-336905	3-J1
EJ-336915	3-J1B
EJ-336915	3-J2B
EJ-343362	6-7U
EJ-344423	1-TM1
EJ-344423	6-16
EJ-349401	4-TM1D
EJ-349401	4-TM1G
EJ-349837	6-7C
EJ-351963	4-J2E
EM-351967	5-IN1
EO-202216	1-T6
EO-336934	2-L7
EO-337598	1-T1
EO-337599	1-T2
EO-337640	2-T1
EO-337684	3-VL1
EO-337880	4-L1
EO-338409	4-L1C
EO-342936	4-L2D
EO-342936	4-L1D
EO-345918	3-VL1B
EO-345918	3-VL2
EO-345918	3-VL3B
EO-345918	3-VL2B
EO-345918	3-VL4B
EO-345918	4-VL1E
EO-348209	1-T3U
EO-349446	2-L6U
EO-349447	2-L6Y1
EO-349452	1-T7
EO-349453	1-T8
EO-349456	1-T3L
EO-349461	2-L3
EO-349461	2-L1
EO-349462	2-L2
EO-349462	2-L5
EO-349462	2-L4
EO-352089	1-T4
EO-353176	1-T5
ER-200940	4-R13
ER-200944	3-R12
ER-200944	3-R13
ER-308028	4-R18
ER-311685	4-R17
ER-311685	4-R9
ER-315046	1-R96
ER-315046	1-R6
ER-324185	1-R5
ER-324337	1-R53
ER-324337	1-R35
ER-324337	1-R34
ER-324337	1-R1B
ER-324337	1-R2B
ER-324337	1-R52
ER-324480	1-R36
ER-324480	1-R37
ER-324934	1-R97
ER-326169	4-FR2
ER-326169	4-FR3
ER-327710	4-R32
ER-328067	1-R86
ER-328278	4-FR1
ER-345659	4-R35
ER-353359	4-R28
ER-672816	4-R1B
ES-336780	5-SW16
ES-336780	5-SW10
ES-336780	5-SW14
ES-336780	5-SW25
ES-336780	5-SW18
ES-336780	5-SW17
ES-336780	5-SW5
ES-336780	5-SW8
ES-336780	5-SW3
ES-336780	5-SW24
ES-336780	5-SW2
ES-336780	5-SW29
ES-336780	5-SW22
ES-336780	5-SW15
ES-336780	5-SW4
ES-336780	5-SW6
ES-336780	5-SW13
ES-336780	5-SW28
ES-336780	5-SW27
ES-336780	5-SW23
ES-336780	5-SW7
ES-336780	5-SW21
ES-336780	5-SW26
ES-336780	5-SW30
ES-336780	5-SW12
ES-336780	5-SW19
ES-336780	5-SW20
ES-336780	5-SW1
ES-336780	5-SW9
ES-336780	5-SW11
ES-344445	1-SW1
ES-347122	1-SW2
ES-349070	6-5
ES-351964	4-SW1
ES-351965	4-SW1B
ES-351965	4-SW1C
ET-208012	4-TR6
ET-308141	1-TR16
ET-322244	1-TR7
ET-322244	1-TR15
ET-322244	4-TR1
ET-322244	5-TR2
ET-322244	5-TR1
ET-328265	2-TR3
ET-336864	1-TR18
ET-336869	2-TR2
ET-336935	1-TR6
ET-337743	2-TR1
ET-337759	4-TR9
ET-338410	1-TR1
ET-345625	4-TR2
ET-345625	4-TR7
ET-345626	4-TR3
ET-345626	4-TR4
ET-349081	1-TR19
ET-349081	1-TR1B
ET-349081	1-TR3B
ET-349081	1-TR2B
ET-349081	1-TR17
ET-349449	2-TR4
ET-349459	4-TR5
ET-353366	1-TR11
ET-353366	1-TR12
ET-403413	1-TR2
ET-403413	1-TR14
ET-403413	1-TR13
ET-403413	1-TR3
ET-403413	1-TR4
ET-403413	1-TR8
ET-403413	1-TR10
ET-403413	1-TR9
ET-403413	4-TR8
ET-403413	5-TR3
ET-423224	1-TR5
EV-344828	1-VR1B
EV-351497	7-11
EV-352088	1-VR2B
EW-336924	6-3S
EW-346249	6-3B
EW-346251	6-3E
EW-349427	6-3C
EW-374894	6-3U
EZ-631945	6-4

INDEX

PARTS NO.	REF. NO.
SA-202118	6-15
SA-356540	7-14x
SK-343017C	7-2
SK-343017D	7-2P
SK-351443A	7-12
SK-351443B	7-12P
SK-351445A	7-3
SK-351445B	7-4
SK-351445C	7-5
SK-351445D	7-6
SK-351445E	7-3P
SK-351445F	7-4P
SK-351445G	7-5P
SK-351445H	7-6P
SK-351446A	7-7
SK-351446B	7-8
SK-351446C	7-9
SK-351446D	7-10
SP-351450A	6-6U
SP-351450B	6-6C
SP-351450D	6-6S
SP-351450E	6-6E
SP-351450F	6-6LB
SP-351450G	6-6LE
SP-351455A	7-13
SP-351455B	7-13P
SZ-332739	6-11
TC-351442	6-17
ZS-300519	6-2
ZS-308846	6-14
ZS-308846	6-10
ZS-308846	6-8
ZS-351886	6-12
ZW-305013	6-26x
ZW-698308	6-19

AKAI

AA-A25/Y1
MODEL AA-A25L

TABLE OF CONTENTS

1. SCHEMATIC DIAGRAM OF ICs 2
2. CONTROL BLOCK DIAGRAM AA-A25/L 6
3. TUNER BLOCK DIAGRAM AA-A25/L 7
4. CONNECTION DIAGRAM AA-A25/L 8
5. MAIN AMP PC BOARD, CONTROL (B) PC BOARD AND OTHERS AA-A25/L . . . 9
6. CONTROL (A) SCHEMATIC DIAGRAM AA-A25/L 10
7. CONTROL (A) PC BOARD AA-A25/L 11
8. TUNER SCHEMATIC DIAGRAM AA-A25 12
9. TUNER PC BOARD AA-A25 13
10. TUNER SCHEMATIC DIAGRAM AA-A25L 14
11. TUNER PC BOARD AA-A25L 15
12. PRE AMP SCHEMATIC DIAGRAM AA-A25/L 16
13. PRE AMP PC BOARD AA-A25/L 17
14. MPX SCHEMATIC DIAGRAM AA-A25/L 18
15. MPX PC BOARD AA-A25/L 18
16. FRONT END SCHEMATIC DIAGRAM AA-A25/L 18
17. FRONT END PC BOARD AA-A25/L 18

A1007A

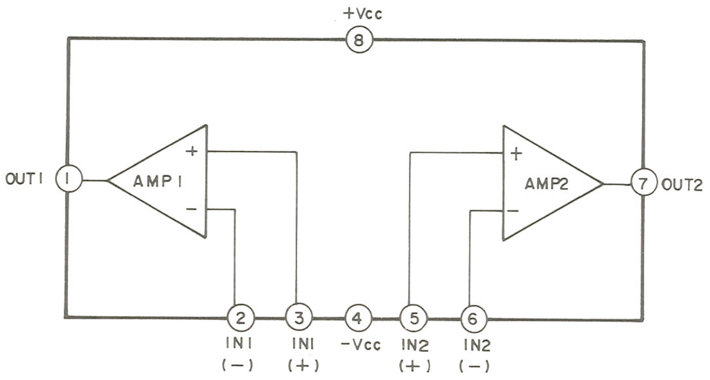
Pin No.	Functions	
1	DIGIT 0	STROBE FOR KEY MATRIX CONVERTER FL DISPLAY
2	DIGIT 1	
3	DIGIT 2	
4	DIGIT 3	
5	DIGIT 4	
6	DIGIT 5	
7	SEG 12	FL DISPLAY SEGMENT DRIVE
8	SEG 13	
9	SEG 11	
10	SEG 10	
11	SEG 9	
12	SEG 8	
13	INPUT SELECTOR DATA FOR ANALOGUE SW	
14	INPUT SELECTOR CLOCK FOR ANALOGUE SW	
15	INPUT SELECTOR STROBE FOR ANALOGUE SW	
16	STROBE FOR ELECTRONIC VOLUME (MAIN, BASS, TREBLE VOLUME)	
17	SEG 7	FL DISPLAY SEGMENT DRIVE
18	SEG 6	
19	SEG 5	
20	SEG 4	
21	GND	
22	SEG 3	FL DISPLAY SEGMENT DRIVE
23	SEG 2	
24	SEG 1	
25	SEG 0	
26	KEY MATRIX INPUT	
27		
28		

Pin No.	Functions
29	CARTRIDGE (MM/MC) SELECTION INPUT MC → "H" MM → "L"
30	TEST
31	X_{IN}
32	X_{OUT}
33	RESET INPUT
34	HOLD INPUT (BACK UP)
35	INPUT STATUS OUTPUT, TUNER → "L" PHONO/CD → "H"
36	TUNER OPERATION PULSE INPUT, Switching input selector to TUNER whenever receives the pulse (6 m sec) from Tuner MI-COM (IC A1007T)
37	MM/MC CIRCUIT SWITCHING OUTPUT.
38	DATA DETECTION FROM A/D CONVERTER
39	END DETECTION FROM A/D CONVERTER
40	ST–WR (CONVERSION START) OUTPUT FOR A/D CONVERTER (LC-7910) DATA OUTPUT FOR MAIN, BASS, TREBLE CONTROL VOLUME IC (TC9176P, TC9156P x 2)
41	CE (DATA CLOCK) OUTPUT FOR A/D CONVERTER (LC7910) CLOCK OUTPUT FOR MAIN, BASS TREBLE, CONTROL VOLUME IC (IC9176P, TC9150P x 2)
42	VDD +5V

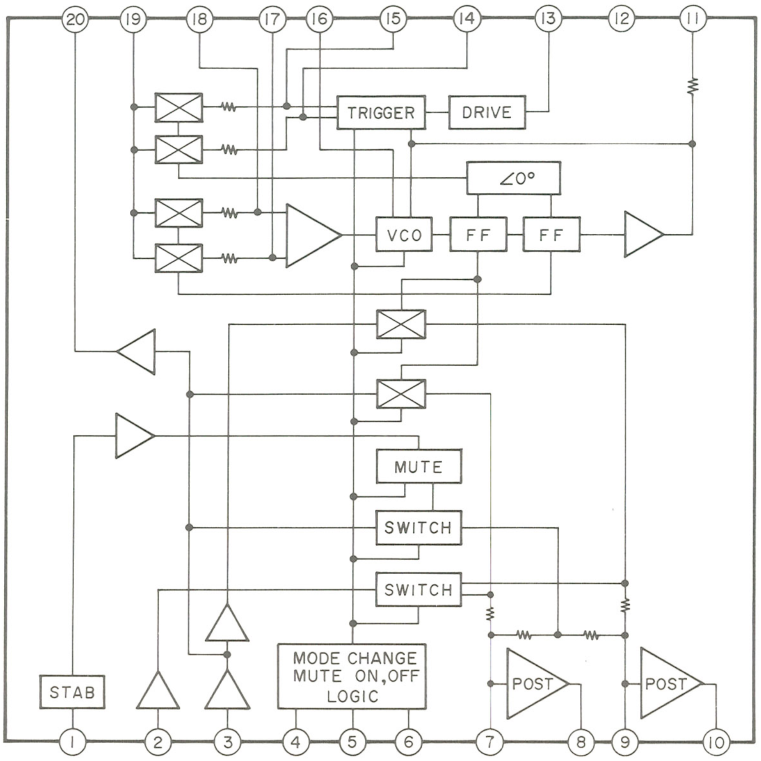
A1007T

Pin No.	Functions	
1	NOT USED	
2	TUNER OPERATION PULSE OUTPUT, Output 6 msec pulse to switch the input selector of Amp MI-COM (A1007A) to Tuner when operating Tuner section by depressing BAND, TUNER UP/DOWN or PRESET CH buttons.	
3	DIGIT 0	STROBE FOR KEY MATRIX CONVERTER & FL DISPLAY
4	DIGIT 1	
5	DIGIT 2	
6	DIGIT 3	
7	DIGIT 4	
8	DIGIT 5	
9	SEG a	FL DISPLAY SEGMENT DRIVE
10	SEG b	
11	SEG c	
12	SEG d	
13	FM MODE SELECTOR OUTPUT FORCED MONO → "H"	
14	TUNER OUT (L & R) MUTE OUTPUT, MUTE at "L"	
15	DETECTOR INPUT FOR THE STATUS OF AMP SECTION MI-COM (A1007A) INPUT SELECTOR. PHONO/CD → "H", TUNER → "L"	
16	Becomes level "H" 1 second after power is turned on ("H" after Reset/Back up cancellation) For the models AA-A35/A45, this terminal is used for the synchronization between static display (Bar meter) and Dynamic display when power is turned on.	
17	SEG e	FL DISPLAY SEGMENT DRIVE
18	SEG f	
19	SEG g	
20	SEG n	
21	GND	
22	A	DATA FOR THE PLL IC (9125BP)
23	B	
24	C	
25	D	
26		KEY MATRIX INPUT and AREA JUDGEMENT INPUT
27		
28		
29		
30	GND	
31	X_{IN}	
32	X_{OUT}	
33	RESET INPUT	
34	HOLD INPUT (BACK UP)	
35	DETECTOR INPUT FOR THE PRESET CH NUMBER, 20CH → "L", 16CH → "H"	
36	FM Band Designation Output	
37	MW Band Designation Output	
38	LW Band Designation Output	
39	LOAD OUTPUT TERMINAL to PLL IC (T9125BP)	
40	DETECTOR INPUT FOR THE AUTO STOP AT SCAN MODE	
41	Not used and Connect to +B LINE	
42	VDD (+5V)	

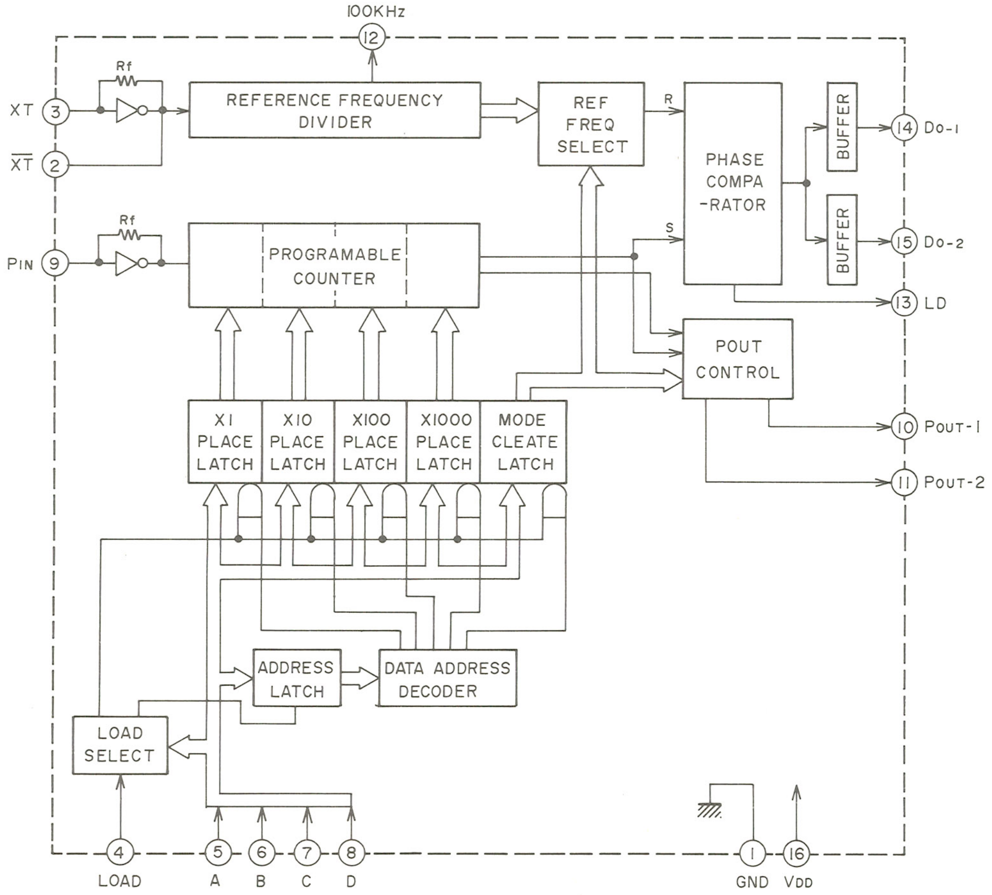
M5218P, M5218P-21, M5220L



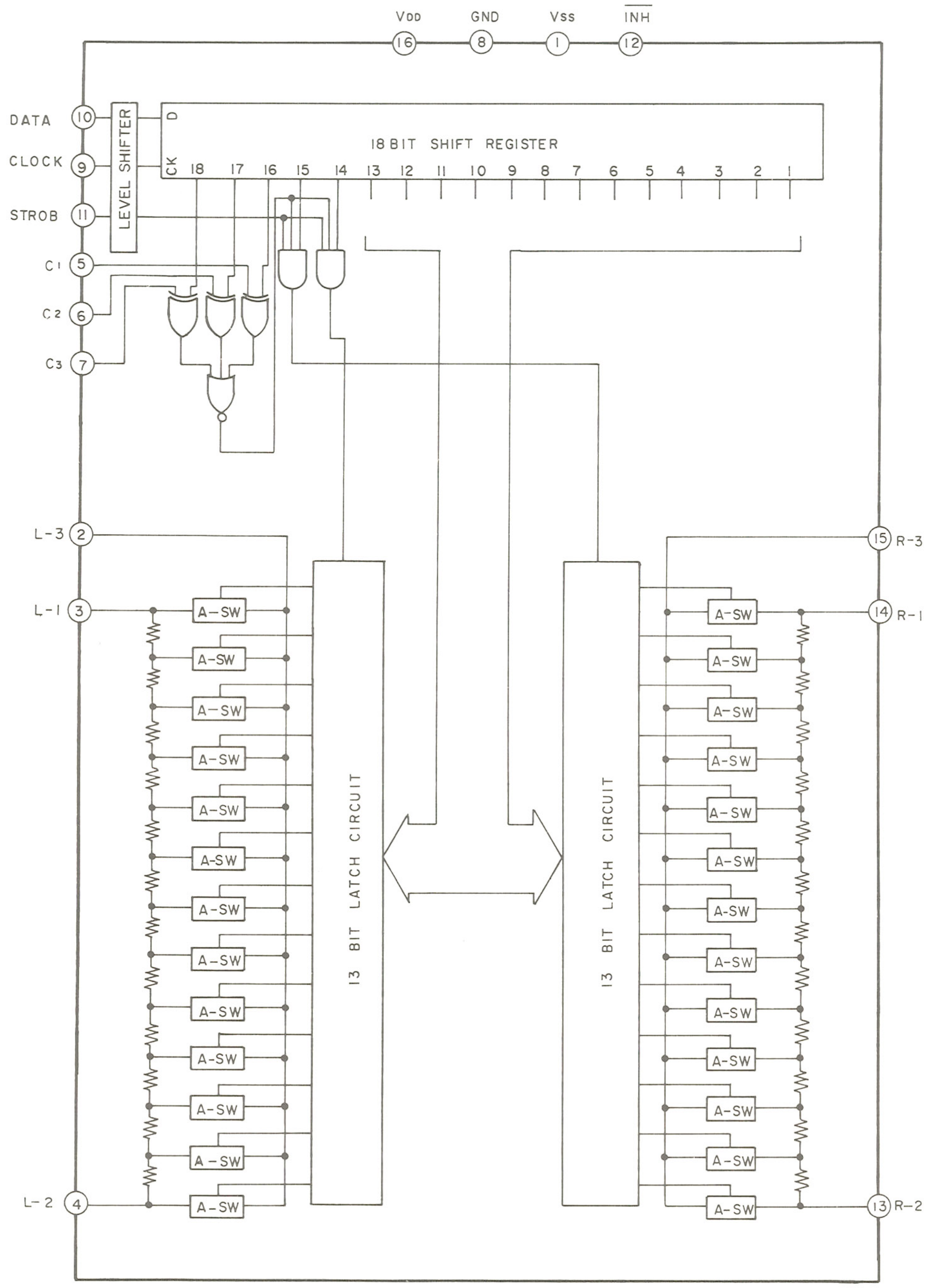
LA3390


20
19
18
17
16
15
14
13
12
11
TRIGGER
DRIVE
∠0°
VCO
FF
FF
MUTE
SWITCH
SWITCH
MODE CHANGE
MUTE ON,OFF
LOGIC
STAB
POST
POST
1
2
3
4
5
6
7
8
9
10

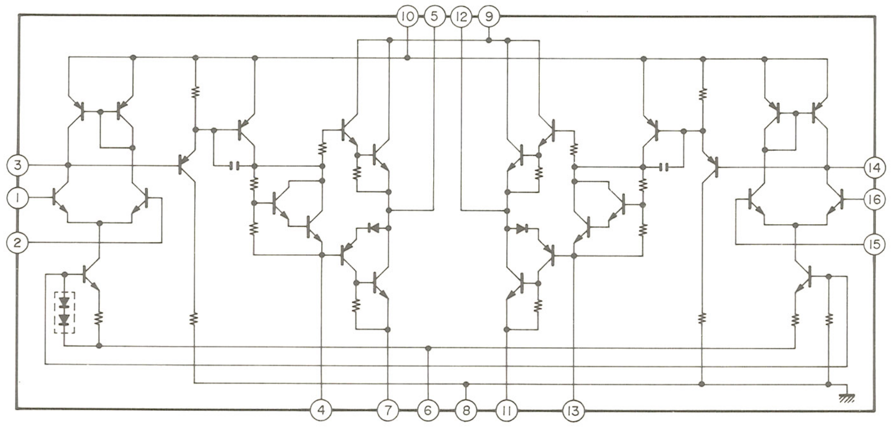
TC9125BP


100KHz
12
Rf
XT 3
$\overline{XT}$ 2
REFERENCE FREQUENCY DIVIDER
REF FREQ SELECT
R
PHASE COMPA -RATOR
BUFFER
BUFFER
14 Do-1
15 Do-2
13 LD
Rf
PIN 9
PROGRAMABLE COUNTER
S
POUT CONTROL
10 POUT-1
11 POUT-2
X1 PLACE LATCH
X10 PLACE LATCH
X100 PLACE LATCH
X1000 PLACE LATCH
MODE CLEATE LATCH
ADDRESS LATCH
DATA ADDRESS DECODER
LOAD SELECT
4 LOAD
5 A
6 B
7 C
8 D
1 GND
16 VDD

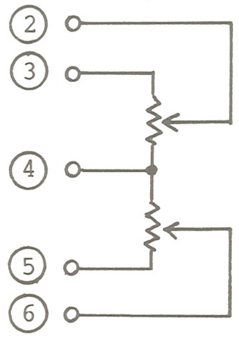
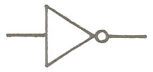
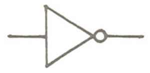
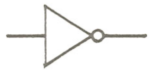
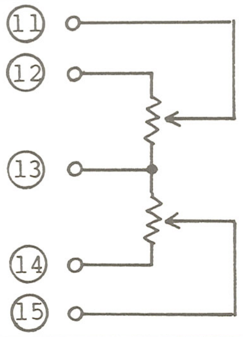
TC9156P

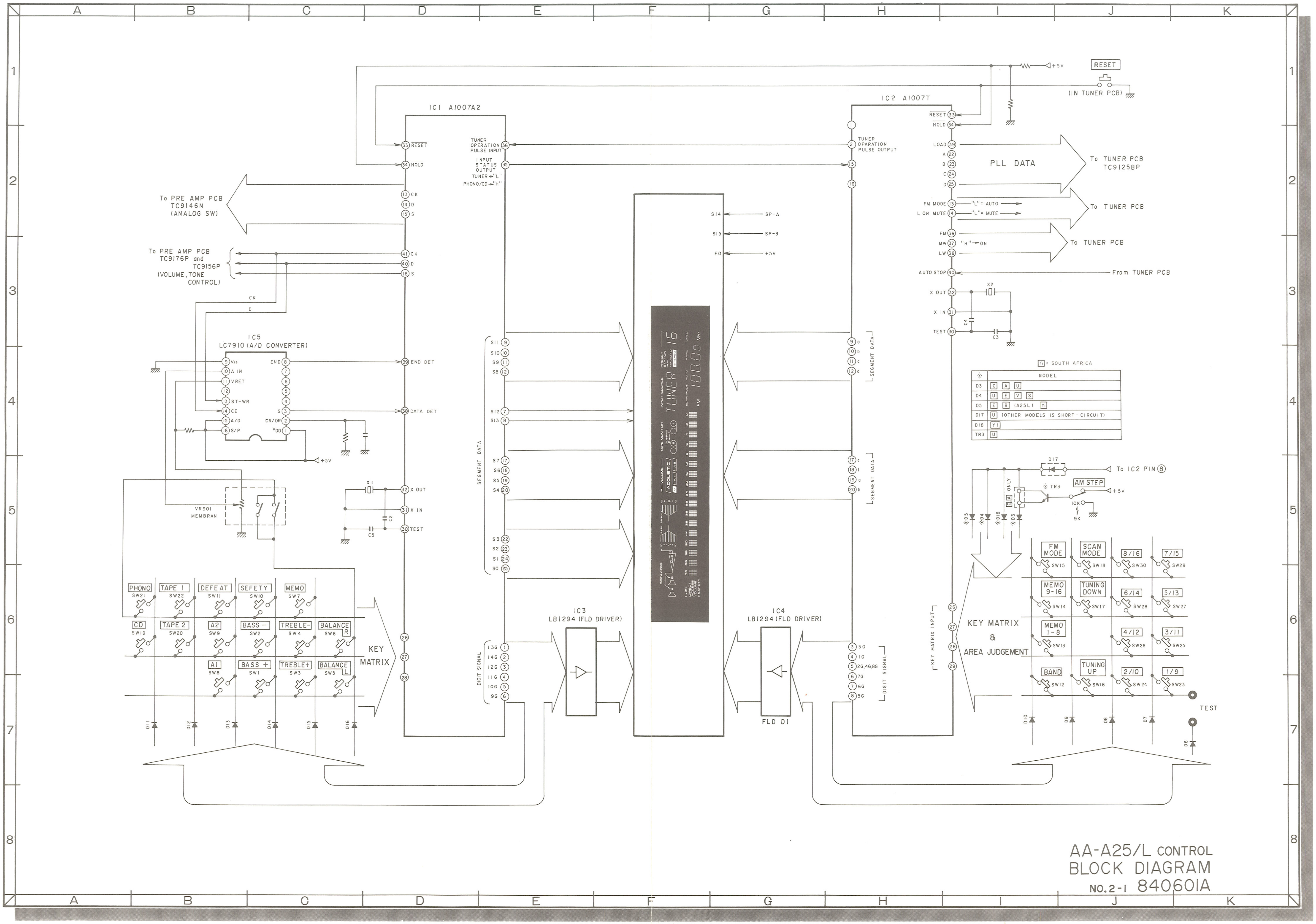

VDD
GND
VSS
INH
16
8
1
12
DATA 10
CLOCK 9
STROB 11
C1 5
C2 6
C3 7
LEVEL SHIFTER
D
CK
18 BIT SHIFT REGISTER
18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
L-3 2
L-1 3
L-2 4
A-SW
13 BIT LATCH CIRCUIT
13 BIT LATCH CIRCUIT
15 R-3
14 R-1
13 R-2

STK4833


10
5
12
9
3
1
2
14
16
15
4
7
6
8
11
13

TC9176

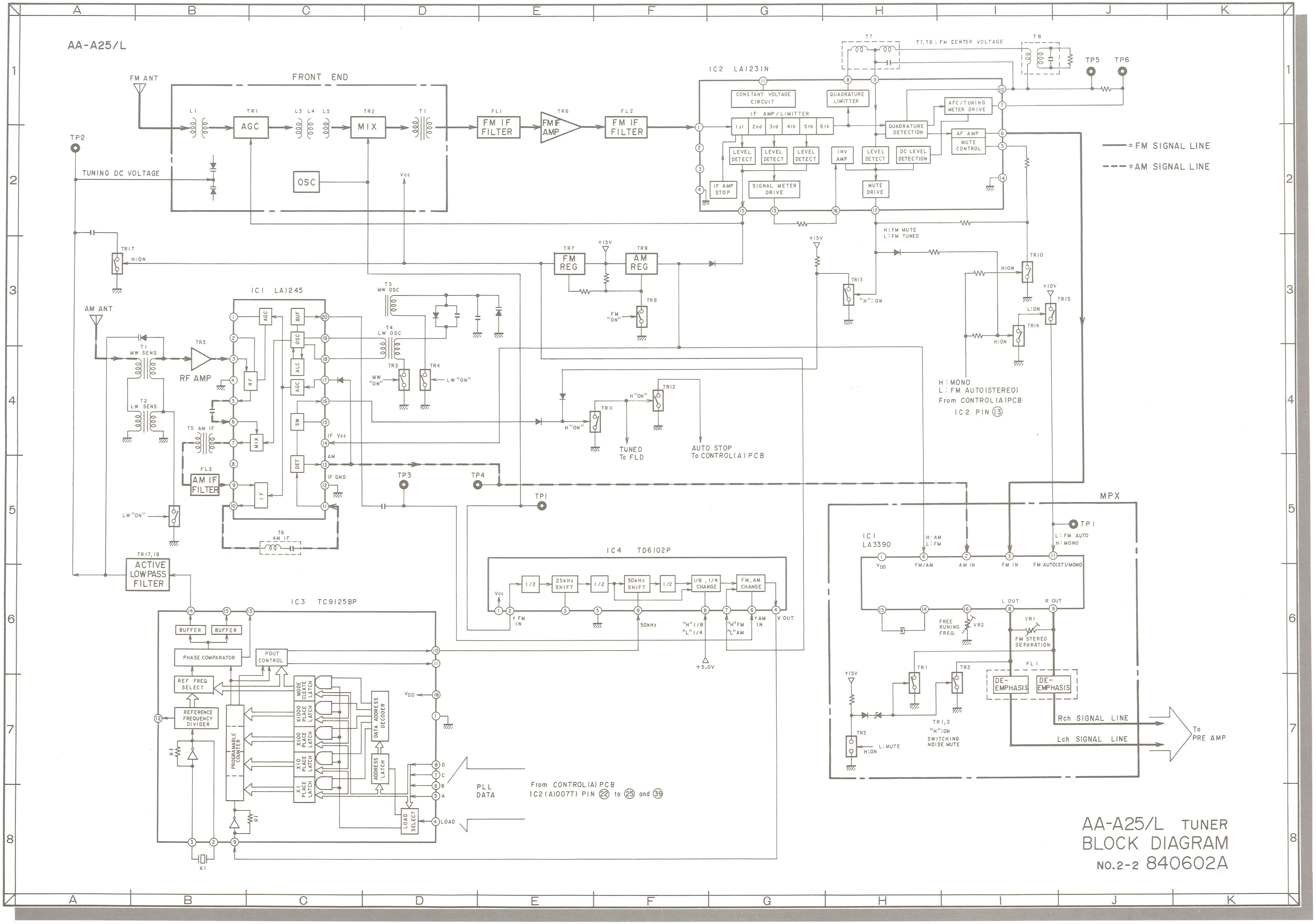
Pin No.	Symbol	Functions	Remarks
1	V_{SS}	−15V	
2	L-OUT$_1$	10dB STEPS ATTENUATOR OUTPUT (Lch) Audio signal attenuate 0 to 70dB (10dB steps)	
3	L-IN$_1$	10 dB STEPS ATTENUATOR INPUT (Lch)	
4	A-GND	AC GND (Lch)	
5	L-IN$_2$	2dB STEPS ATTENUATOR INPUT (Lch)	
6	L-OUT$_2$	2dB STEPS ATTENUATOR OUTPUT (Lch) Audio signal attenuate 0 to 8db (2dB steps)	
7	GND	GND	
8	CK	CLOCK INPUT, This terminal is the CLOCK INPUT to read data of the DATA terminal.	
9	DATA	DATA INPUT FOR THE ATTENUATION LEVEL AND CHANNEL (Lch and Rch) SELECTION DATA, Data is composed to 20 bits and input by clock signal.	
10	ST	STROBE INPUT Attentuation Levels and channel (Lch and Rch) selection are read DATA, CK terminal that is latch to activate "H" at this terminal. Holding the previous data, when "H" level doesn't apply to this terminal.	
11	R-OUT$_2$	2dB STEPS ATTENUATOR OUTPUT (Rch) Audio signal attenuate 0 to 8dB (2dB steps)	 11 12 13 14 15
12	R-IN$_2$	2dB STEPS ATTENUATOR INPUT (Rch)	
13	A-GND	AC GND (Rch)	
14	R-IN$_1$	10dB STEPS ATTENUATOR INPUT (Rch)	
15	R-OUT$_1$	10dB STEPS ATTENUATOR OUTPUT (Rch) Audio signal attenuate 0 to 70dB (10dB steps)	
16	V_{DD}	+15V	



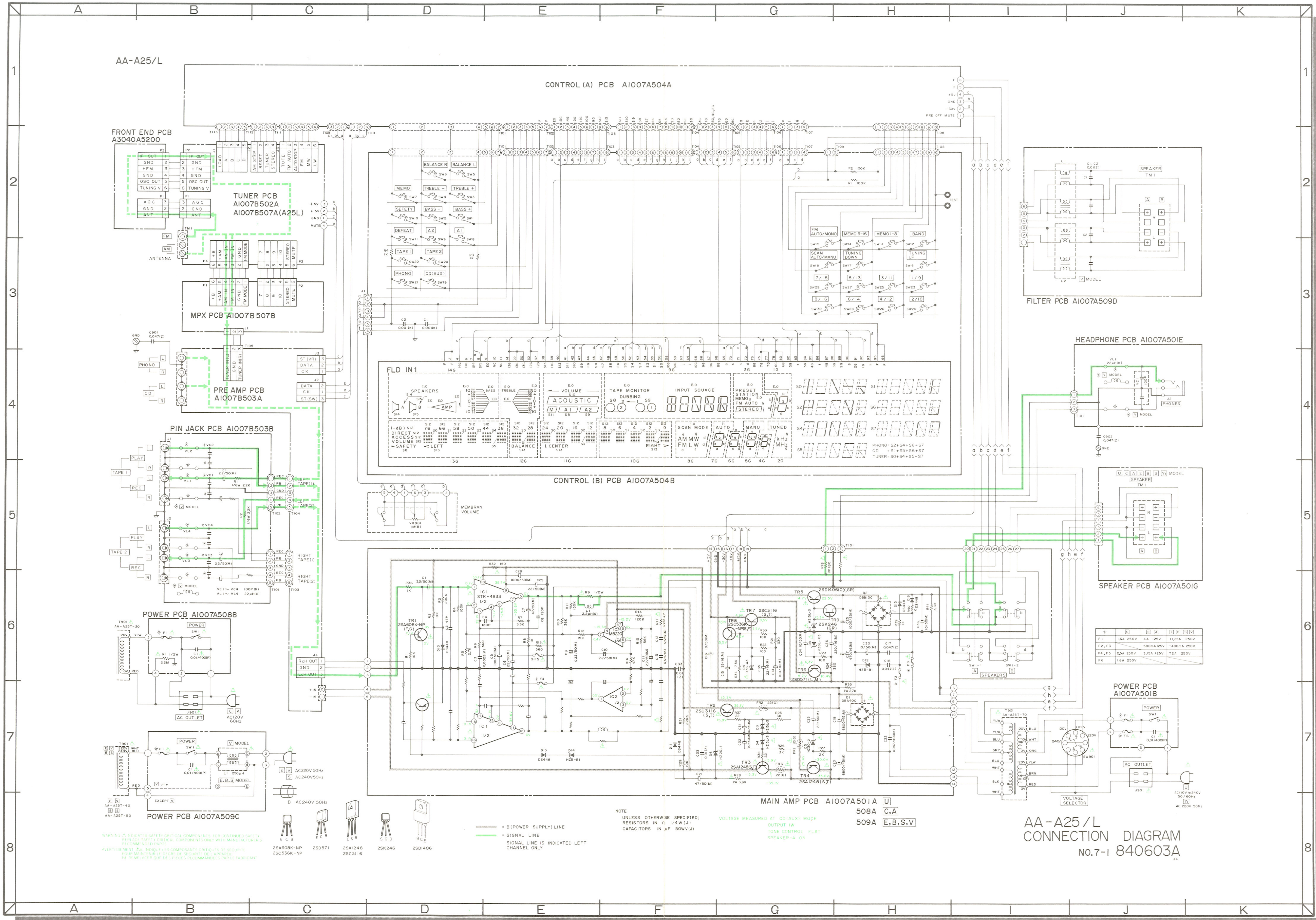
A B C D E F G H I J K
1 2 3 4 5 6 7 8
IC1 A1007A2
IC2 A1007T
RESET
(IN TUNER PCB)
+5V
33 RESET
34 HOLD
TUNER OPERATION PULSE INPUT 36
INPUT STATUS OUTPUT 35
TUNER→"L"
PHONO/CD→"H"
TUNER OPARATION PULSE OUTPUT
LOAD 39
A 22
B 23
C 24
D 25
PLL DATA
To TUNER PCB TC9125BP
FM MODE 13 "L"= AUTO
L ON MUTE 14 "L"= MUTE
To TUNER PCB
FM 36
MW 37 "H"→ON
LW 38
To TUNER PCB
AUTO STOP 40
From TUNER PCB
X OUT 32
X IN 31
TEST 30
X2
C4
C3
To PRE AMP PCB TC9146N (ANALOG SW)
13 CK
14 D
15 S
To PRE AMP PCB TC9176P and TC9156P (VOLUME, TONE CONTROL)
41 CK
40 D
16 S
CK
D
IC5 LC7910 (A/D CONVERTER)
Vss
A IN
VRET
ST-WR
CE
A/D
S/P
END
CR/DR
VDD
39 END DET
38 DATA DET
+5V
VR901 MEMBRAN
X1
32 X OUT
31 X IN
30 TEST
C2
C5
S14 SP-A
S15 SP-B
E0 +5V
SEGMENT DATA
S11 9
S10 10
S9 11
S8 12
S12 7
S13 8
S7 17
S6 18
S5 19
S4 20
S3 22
S2 23
S1 24
S0 25
9 a
10 b
11 c
12 d
17 e
18 f
19 g
20 h
SEGMENT DATA
DIGIT SIGNAL
13G 1
14G 2
12G 3
11G 4
10G 5
9G 6
3 3G
4 1G
5 2G,4G,8G
6 7G
7 6G
8 5G
DIGIT SIGNAL
IC3 LB1294 (FLD DRIVER)
IC4 LB1294 (FLD DRIVER)
FLD D1
TUNER
FM 100.00 MHz
16
PHONO SW21
TAPE 1 SW22
DEFEAT SW11
SEFETY SW10
MEMO SW7
CD SW19
TAPE 2 SW20
A2 SW9
BASS − SW2
TREBLE− SW4
BALANCE R SW6
A1 SW8
BASS + SW1
TREBLE+ SW3
BALANCE L SW5
KEY MATRIX
26
27
28
D11 D12 D13 D14 D15 D16
Y1 = SOUTH AFRICA
D17
To IC2 PIN 8
※TR3
AM STEP
+5V
10K
9K
Q/A ONLY
※D5 ※D4 ※D18 ※D3
KEY MATRIX INPUT
25
27
28
29
KEY MATRIX & AREA JUDGEMENT
FM MODE SW15
SCAN MODE SW18
8/16 SW30
7/15 SW29
MEMO 9-16 SW14
TUNING DOWN SW17
6/14 SW28
5/13 SW27
MEMO 1-8 SW13
4/12 SW26
3/11 SW25
BAND SW12
TUNING UP SW16
2/10 SW24
1/9 SW23
TEST
D10 D9 D8 D7 D6

※	MODEL
D3	C A U
D4	U E V S
D5	E B (A25L) Y1
D17	U (OTHER MODELS IS SHORT-CIRCUIT)
D18	Y1
TR3	U

AA-A25/L CONTROL
BLOCK DIAGRAM
NO.2-1 84060IA


AA-A25/L
A B C D E F G H I J K
1 2 3 4 5 6 7 8
FM ANT
FRONT END
L1
TR1
AGC
L3 L4 L5
TR2
MIX
T1
OSC
Vcc
TP2
TUNING DC VOLTAGE
FL1
FM IF FILTER
TR6
FM IF AMP
FL2
FM IF FILTER
T7
T7, T8 : FM CENTER VOLTAGE
T8
TP5
TP6
IC2 LA1231N
CONSTANT VOLTAGE CIRCUIT
QUADRATURE LIMITTER
IF AMP/LIMITTER
1st 2nd 3rd 4th 5th 6th
QUADRATURE DETECTION
AFC/TUNING METER DRIVE
AF AMP
MUTE CONTROL
LEVEL DETECT
LEVEL DETECT
LEVEL DETECT
INV AMP
LEVEL DETECT
DC LEVEL DETECTION
IF AMP STOP
SIGNAL METER DRIVE
MUTE DRIVE
H: FM MUTE
L: FM TUNED
— = FM SIGNAL LINE
- - = AM SIGNAL LINE
TR17
H:ON
TR7
FM REG
+15V
TR9
AM REG
TR8
FM "ON"
+15V
TR13
"H": ON
TR10
H:ON
+10V
TR15
L:ON
TR14
H:ON
H: MONO
L: FM AUTO (STEREO)
From CONTROL (A) PCB
IC2 PIN ⑬
IC1 LA1245
AM ANT
T1 MW SENS
TR5
RF AMP
T2 LW SENS
T5 AM IF
FL3
AM IF FILTER
LW "ON"
AGC
BUF
OSC
ALC
AGC
RF
MIX
SW
DET
IF
IF Vcc
AM
IF GND
T6 AM IF
T3 MW OSC
T4 LW OSC
TR3
MW "ON"
TR4
LW "ON"
TR11
H "ON"
TR12
H "ON"
TUNED To FLD
AUTO STOP To CONTROL (A) PCB
TP3
TP4
TP1
TR17, 18
ACTIVE LOWPASS FILTER
IC4 TD6102P
Vcc
1/2
25kHz SHIFT
1/2
50kHz SHIFT
1/2
1/8, 1/4 CHANGE
FM, AM CHANGE
f FM IN
50kHz
"H" 1/8
"L" 1/4
"H" FM
"L" AM
f AM IN
V OUT
+5.0V
IC3 TC9125BP
BUFFER
BUFFER
PHASE COMPARATOR
POUT CONTROL
REF FREQ SELECT
REFERENCE FREQUENCY DIVIDER
PROGRAMABLE COUNTER
MODE CLEATE LATCH
X1000 PLACE LATCH
X100 PLACE LATCH
X10 PLACE LATCH
X1 PLACE LATCH
DATA ADDRESS DECODER
ADDRESS LATCH
LOAD SELECT
Rf
Rf
X1
VDD
D
C
B
A
LOAD
PLL DATA
From CONTROL (A) PCB
IC2 (A1007T) PIN ㉒ to ㉕ and ㊴
MPX
TP1
IC1 LA3390
H: AM
L: FM
L: FM AUTO
H: MONO
VDD
FM/AM
AM IN
FM IN
FM AUTO(ST)/MONO
L OUT
R OUT
FREE RUNING FREQ.
VR2
VR1
FM STEREO SEPARATION
FL1
DE-EMPHASIS
DE-EMPHASIS
TR1
TR2
+15V
TR3
L: MUTE
H: ON
TR1, 2
"H": ON
SWITCHING NOISE MUTE
Rch SIGNAL LINE
Lch SIGNAL LINE
To PRE AMP

AA-A25/L TUNER
BLOCK DIAGRAM
NO.2-2 840602A


AA-A25/L
CONTROL (A) PCB A1007A504A
CONTROL (B) PCB A1007A504B
FRONT END PCB A3040A5200
TUNER PCB A1007B502A A1007B507A(A25L)
MPX PCB A1007B507B
PRE AMP PCB A1007B503A
PIN JACK PCB A1007B503B
POWER PCB A1007A508B
POWER PCB A1007A509C
FILTER PCB A1007A509D
HEADPHONE PCB A1007A501E
SPEAKER PCB A1007A501G
POWER PCB A1007A501B
FLD IN1
MEMBRAN VOLUME
ANTENNA
PHONO
CD
TAPE 1
TAPE 2
AC OUTLET
VOLTAGE SELECTOR
SPEAKERS
PHONES
STK-4833
M5220
E V AA-A25T-40
B S AA-A25T-50
E V AC220V 50Hz
S AC240V50Hz
B AC240V 50Hz
U AC110V to 240V 50/60Hz
Y AC 220V 50Hz
2SA608K-NP 2SC536K-NP
2SD571
2SA1248 2SC3116
2SK246
2SD1406
= B(POWER SUPPLY) LINE
= SIGNAL LINE
SIGNAL LINE IS INDICATED LEFT CHANNEL ONLY

※	U	C A	E B S V
F1	1,6A 250V	4A 125V	T1,25A 250V
F2, F3		500mA 125V	T400mA 250V
F4, F5	2,5A 250V	3,15A 125V	T2A 250V
F6	1,6A 250V		

MAIN AMP PCB A1007A501A U
508A C,A
509A E,B,S,V

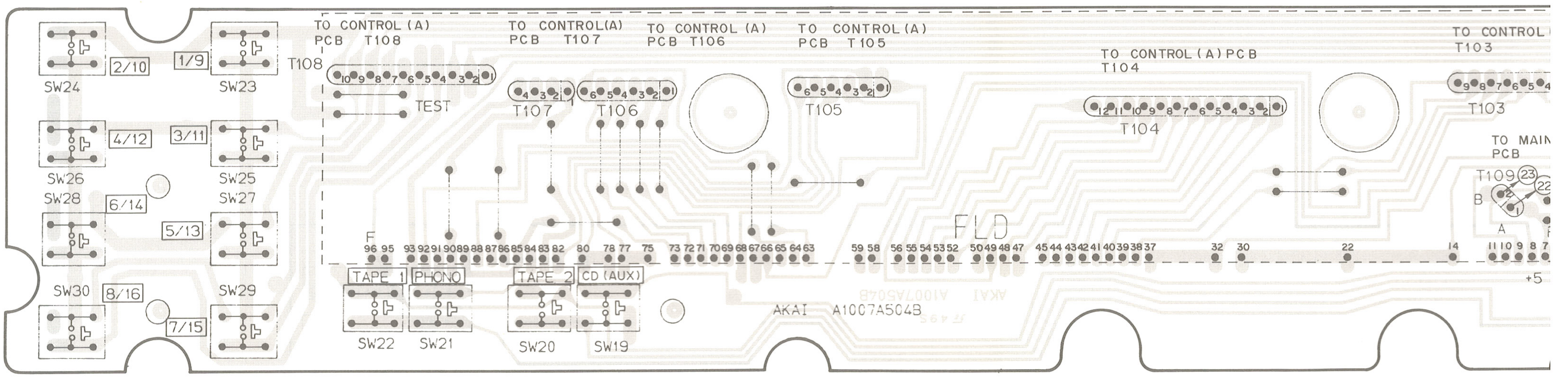
NOTE
UNLESS OTHERWISE SPECIFIED;
RESISTORS IN Ω 1/4W(J)
CAPACITORS IN μF 50WV(J)

VOLTAGE MEASURED AT CD(AUX) MODE
OUTPUT 1W
TONE CONTROL FLAT
SPEAKER-A ON

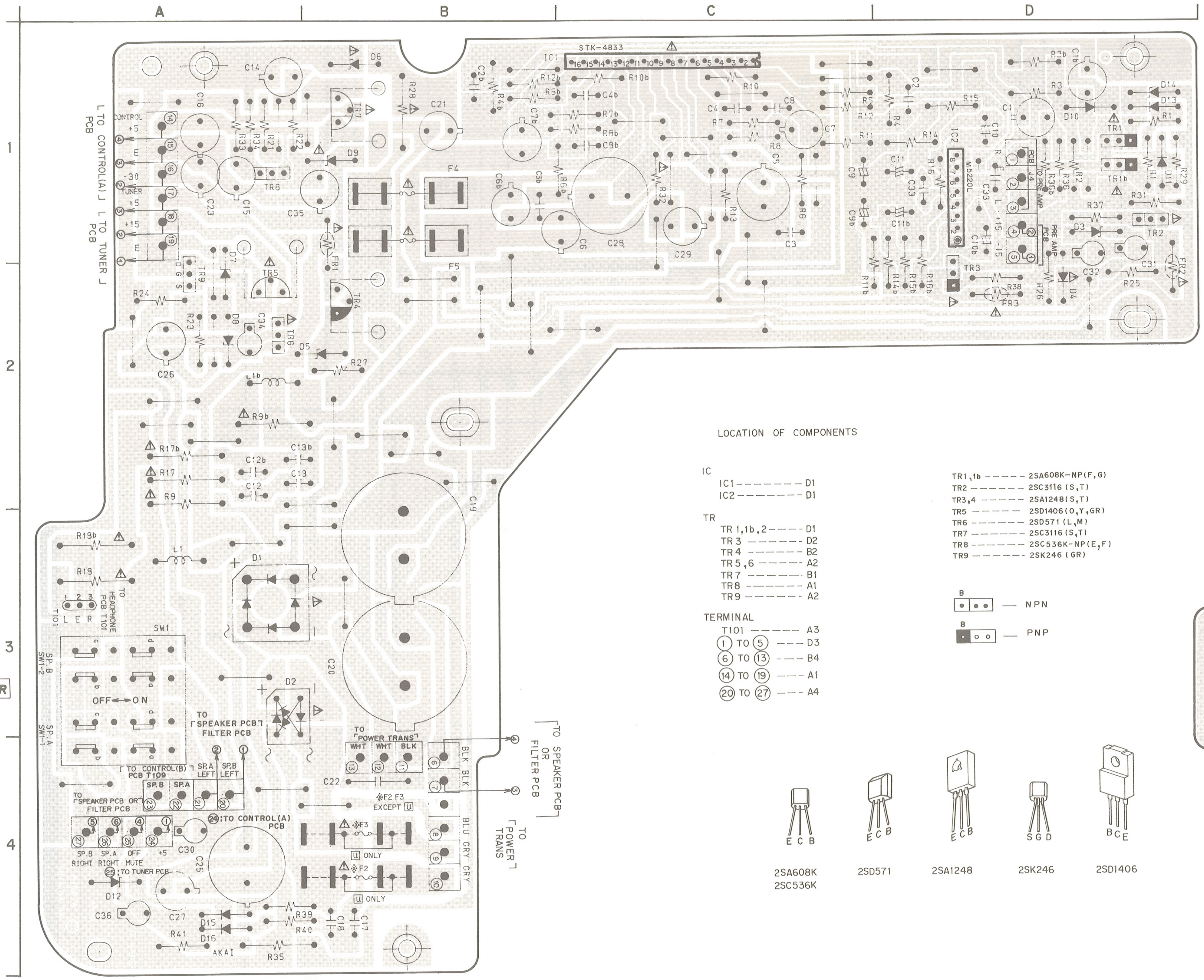
WARNING ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE POUR MAINTENIR LE DEGRE DE SECURITE DE L APPAREIL NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT

AA-A25/L
CONNECTION DIAGRAM
NO.7-1 840603A
4C


TO CONTROL (A) PCB T108
TO CONTROL(A) PCB T107
TO CONTROL (A) PCB T106
TO CONTROL (A) PCB T105
TO CONTROL (A) PCB T104
TO CONTROL T103
TO MAIN PCB
T109
TEST
FLD
SW19
SW20
SW21
SW22
SW23
SW24
SW25
SW26
SW27
SW28
SW29
SW30
TAPE 1
PHONO
TAPE 2
CD (AUX)
AKAI A1007A504B

CONTROL (B) PCB A1007A504B


A
B
C
D
1
2
3
4
SPEAKER
STK-4833
IC1
IC2
M5220L
L TO CONTROL(A) PCB
L TO TUNER PCB
TO HEADPHONE PCB T101
SW1
OFF → ON
TO SPEAKER PCB FILTER PCB
TO CONTROL(B) PCB T109
TO POWER TRANS
WHT WHT BLK
TO SPEAKER PCB OR FILTER PCB
TO POWER TRANS
BLK BLK BLU GRY GRY
TO CONTROL (A) PCB
TO TUNER PCB
TO PRE AMP PCB
AKAI

MAIN AMP PCB A1007A501A U
508A C A
509A E B S V

LOCATION OF COMPONENTS

IC

IC1	D1
IC2	D1

TR

TR 1,1b,2	D1
TR 3	D2
TR 4	B2
TR 5,6	A2
TR 7	B1
TR 8	A1
TR 9	A2

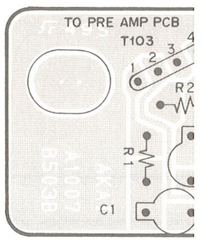
TERMINAL

T101	A3
① TO ⑤	D3
⑥ TO ⑬	B4
⑭ TO ⑲	A1
⑳ TO ㉗	A4

TR1,1b	2SA608K-NP(F,G)
TR2	2SC3116 (S,T)
TR3,4	2SA1248(S,T)
TR5	2SD1406(O,Y,GR)
TR6	2SD571 (L,M)
TR7	2SC3116(S,T)
TR8	2SC536K-NP(E,F)
TR9	2SK246 (GR)

B ● ● ● — NPN

B ■ ○ ○ — PNP


TO PRE AMP PCB
T103
AKAI A1007 A503B
C1
R1

PIN JACK

E C B

2SA608K
2SC536K

E C B

2SD571

E C B

2SA1248

S G D

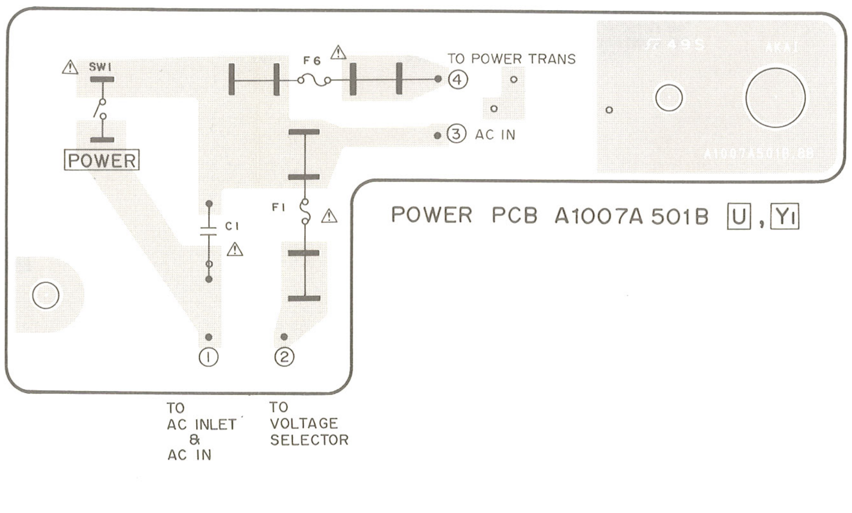
2SK246

B C E

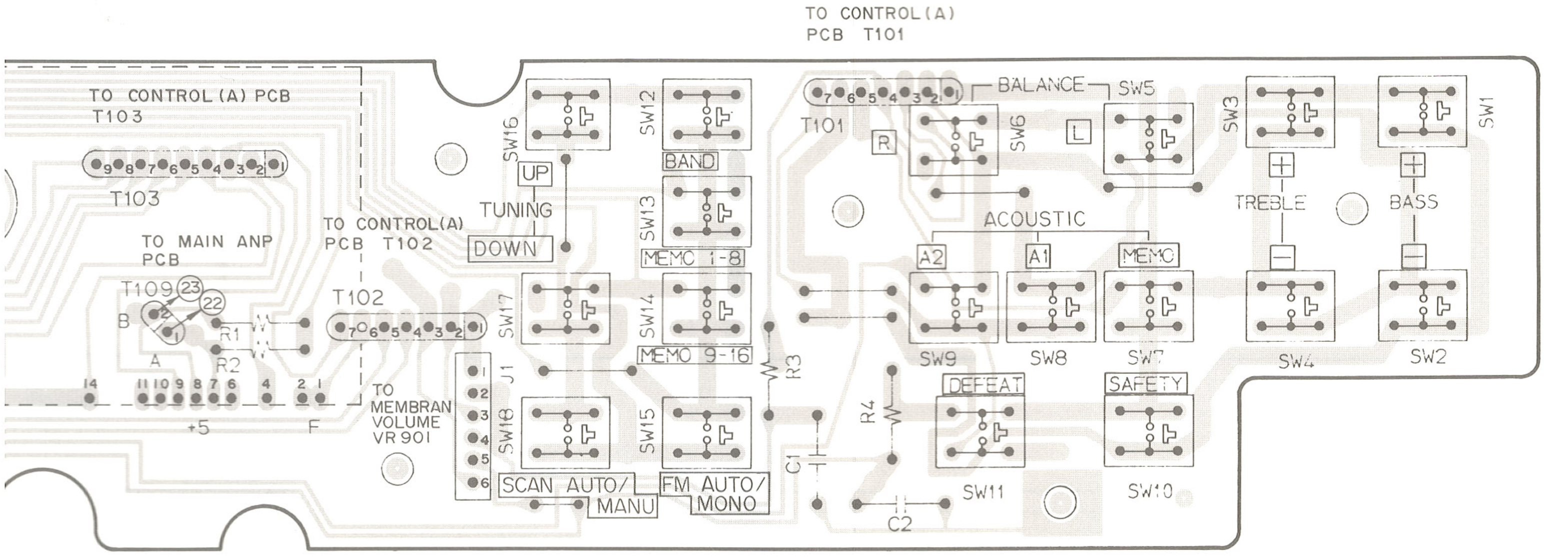
2SD1406

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

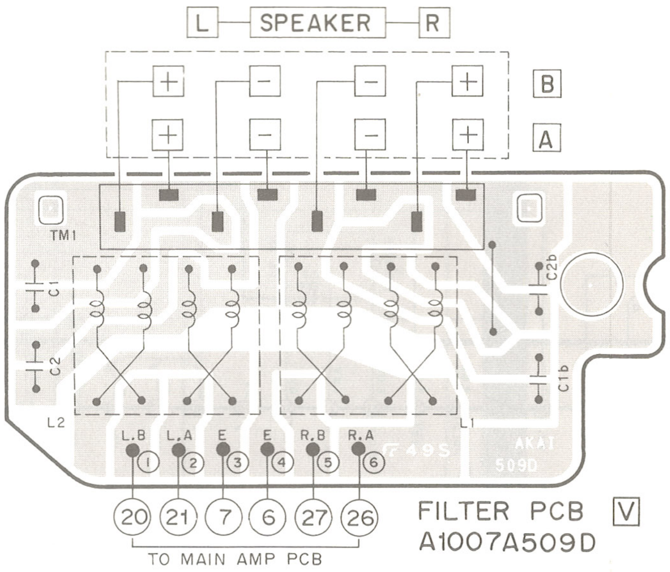
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


SW1
POWER
F6
TO POWER TRANS
④
③ AC IN
F1
C1
①
②
TO AC INLET & AC IN
TO VOLTAGE SELECTOR
AKAI

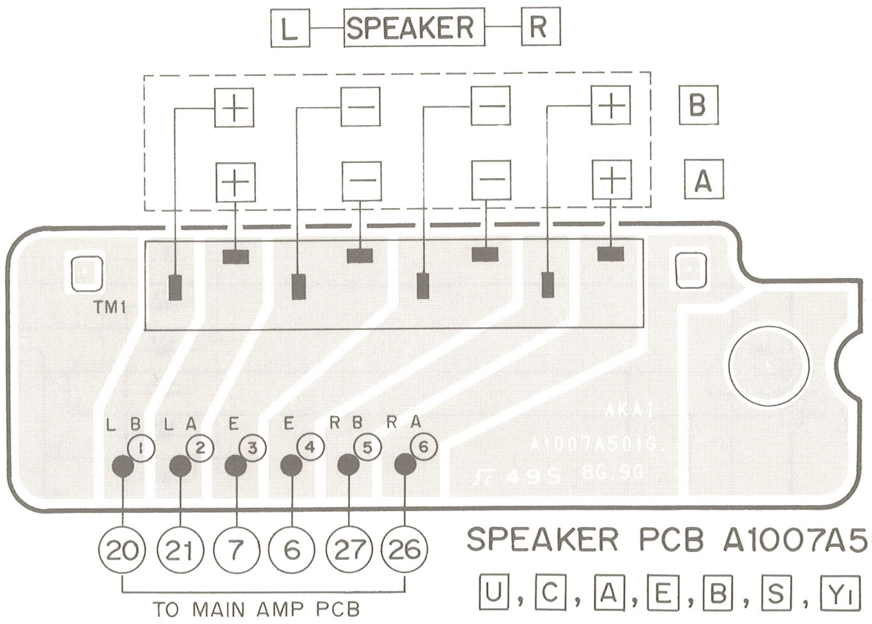
POWER PCB A1007A 501B U, Y


TO CONTROL(A) PCB T101
TO CONTROL (A) PCB T103
T103
TO MAIN ANP PCB
T109
TO CONTROL(A) PCB T102
T102
TO MEMBRAN VOLUME VR901
J1
SW16
UP
TUNING
DOWN
SW17
SW18
SCAN AUTO/MANU
SW12
BAND
SW13
MEMO 1-8
SW14
MEMO 9-16
SW15
FM AUTO/MONO
R3
R4
C1
C2
T101
BALANCE
SW5
SW6
R
L
ACOUSTIC
A2
A1
MEMO
SW9
SW8
SW7
DEFEAT
SAFETY
SW11
SW10
SW3
TREBLE
SW4
SW1
BASS
SW2
+5
F

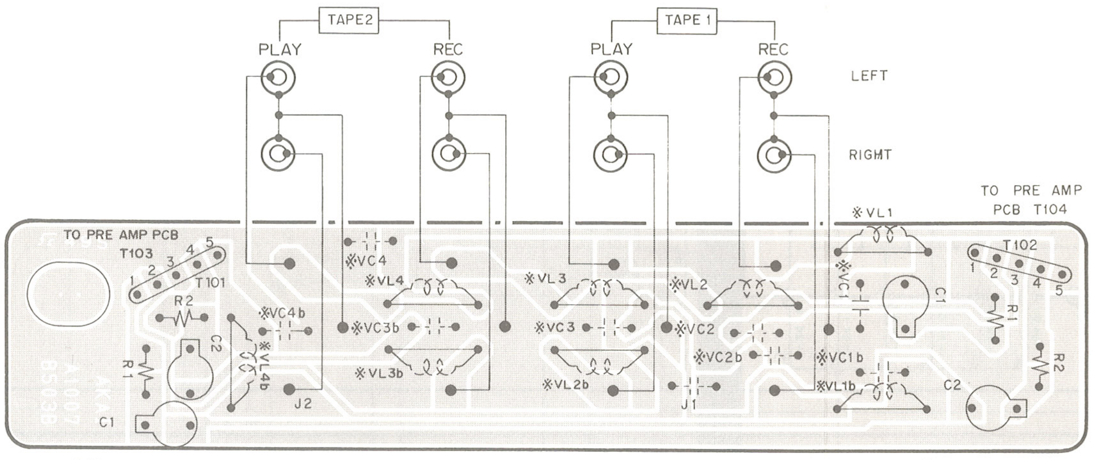
A504B


L
SPEAKER
R
B
A
TM1
C1
C2
C2b
C1b
L2
L1
L.B
L.A
E
E
R.B
R.A
AKAI
20
21
7
6
27
26
TO MAIN AMP PCB

FILTER PCB [V]
A1007A509D

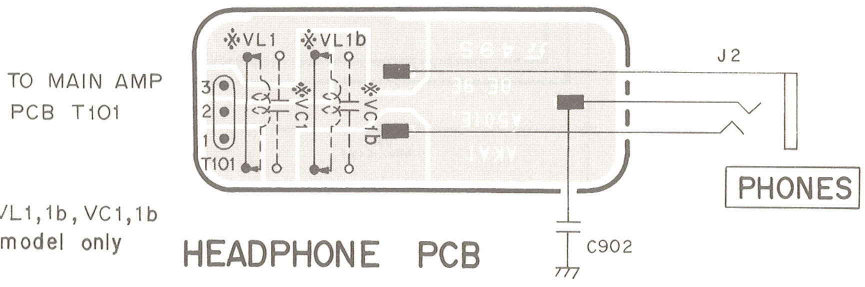

L
SPEAKER
R
B
A
TM1
L B
L A
E
E
R B
R A
AKAI
A1007A501G
20
21
7
6
27
26
TO MAIN AMP PCB

SPEAKER PCB A1007A501G
[U], [C], [A], [E], [B], [S], [Yi]


TAPE2
PLAY
REC
TAPE 1
PLAY
REC
LEFT
RIGHT
TO PRE AMP PCB T103
T101
TO PRE AMP PCB T104
T102
※VL1
※VC4
※VL4
※VC4b
※VC3b
※VL3b
※VL4b
※VL3
※VC3
※VL2b
※VL2
※VC2
※VC2b
J1
※VC1
※VC1b
※VL1b
R1
R2
C1
C2
J2

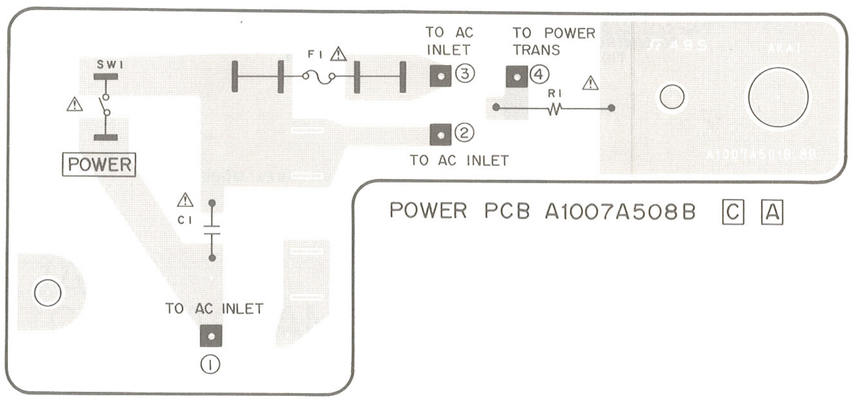
PIN JACK PCB A1007B503B

VL1 to VL4 VL1b to VL4b
VC1 to VC4 VC1b to VC4b } V model only

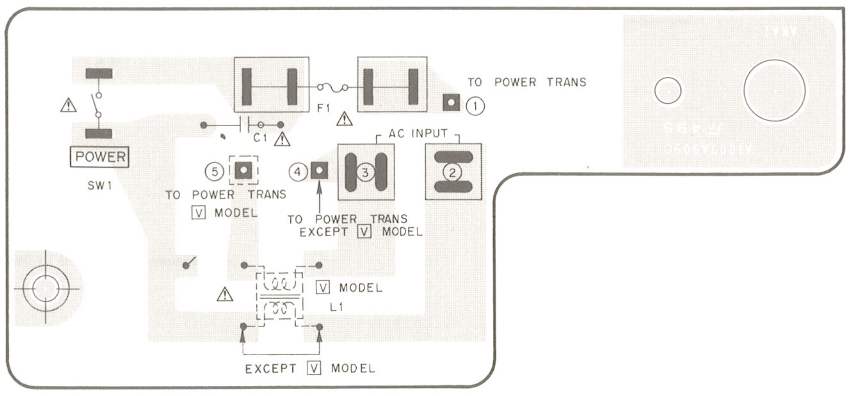

TO MAIN AMP PCB T101
※VL1
※VL1b
※VC1
※VC1b
T101
J2
PHONES
C902

VL1, 1b, VC1, 1b
[V] model only

HEADPHONE PCB
A1007A501E

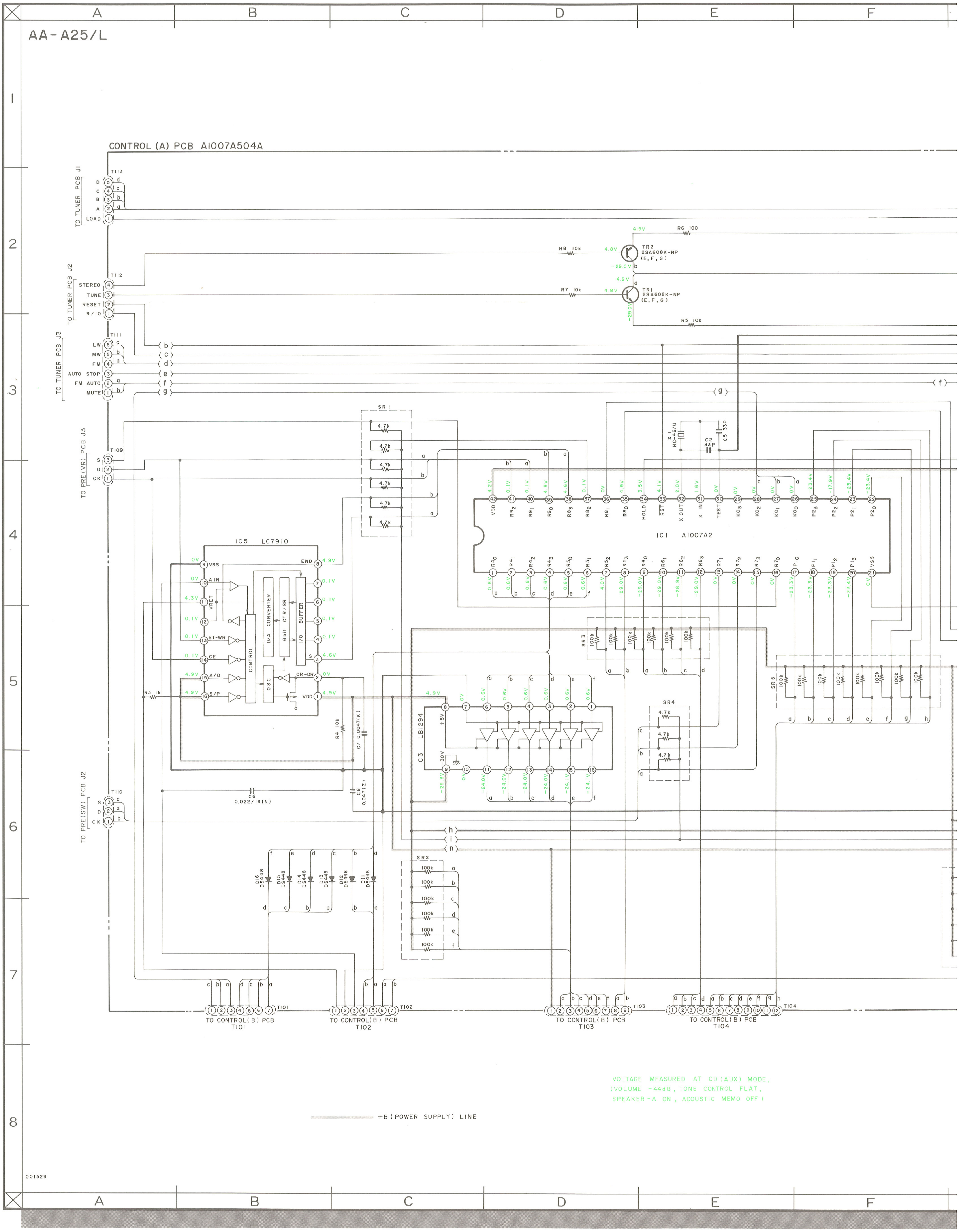

SW1
POWER
F1
TO AC INLET
TO POWER TRANS
R1
C1
TO AC INLET
TO AC INLET

POWER PCB A1007A508B [C] [A]


TO POWER TRANS
F1
C1
AC INPUT
POWER
SW1
TO POWER TRANS [V] MODEL
TO POWER TRANS EXCEPT [V] MODEL
[V] MODEL
L1
EXCEPT [V] MODEL

POWER PCB A1007A509C
[E] [V] [B] [S]

AA-A25/L


A
B
C
D
E
F
1
2
3
4
5
6
7
8
CONTROL (A) PCB A1007A504A
TO TUNER PCB J1
T113
D
C
B
A
LOAD
TO TUNER PCB J2
T112
STEREO
TUNE
RESET
9/10
TO TUNER PCB J3
T111
LW
MW
FM
AUTO STOP
FM AUTO
MUTE
TO PRE(VR) PCB J3
T109
S
D
CK
TO PRE(SW) PCB J2
T110
S
D
CK
R8 10k
R7 10k
R6 100
R5 10k
TR2
2SA608K-NP
(E,F,G)
TR1
2SA608K-NP
(E,F,G)
4.9V
4.8V
-29.0V
SR1
4.7k
X1
HC-49/U
C2
33P
C5
33P
IC1 A1007A2
VDD
R92
R91
R90
R83
R82
R81
R80
HOLD
RST
X OUT
X IN
TEST
KO3
KO2
KO1
KO0
P23
P22
P21
P20
R40
R41
R42
R43
R50
R51
R52
R53
R60
R61
R62
R63
R71
R72
R73
R70
P10
P11
P12
P13
VSS
4.2V
0.1V
4.6V
3.5V
4.1V
2.0V
1.6V
0V
-23.4V
-17.9V
0.6V
-29.0V
-28.9V
-23.3V
IC5 LC7910
VSS
A IN
VRET
ST-WR
CE
A/D
S/P
END
S
CR-DR
VDD
D/A CONVERTER
CTR/SR
BUFFER
6 bit
I/O
CONTROL
OSC
4.3V
R3 1k
R4 10k
C7 0.0047(K)
C8 0.047(Z)
C6 0.022/16(N)
IC3 LB1294
+5V
-30V
-29.3V
-24.0V
-24.1V
SR2
100k
SR3
SR4
SR5
D16 DS448
D15 DS448
D14 DS448
D13 DS448
D12 DS448
D11 DS448
T101
TO CONTROL(B) PCB T101
T102
TO CONTROL(B) PCB T102
T103
TO CONTROL(B) PCB T103
T104
TO CONTROL(B) PCB T104

VOLTAGE MEASURED AT CD(AUX) MODE,
(VOLUME -44dB, TONE CONTROL FLAT,
SPEAKER-A ON, ACOUSTIC MEMO OFF)

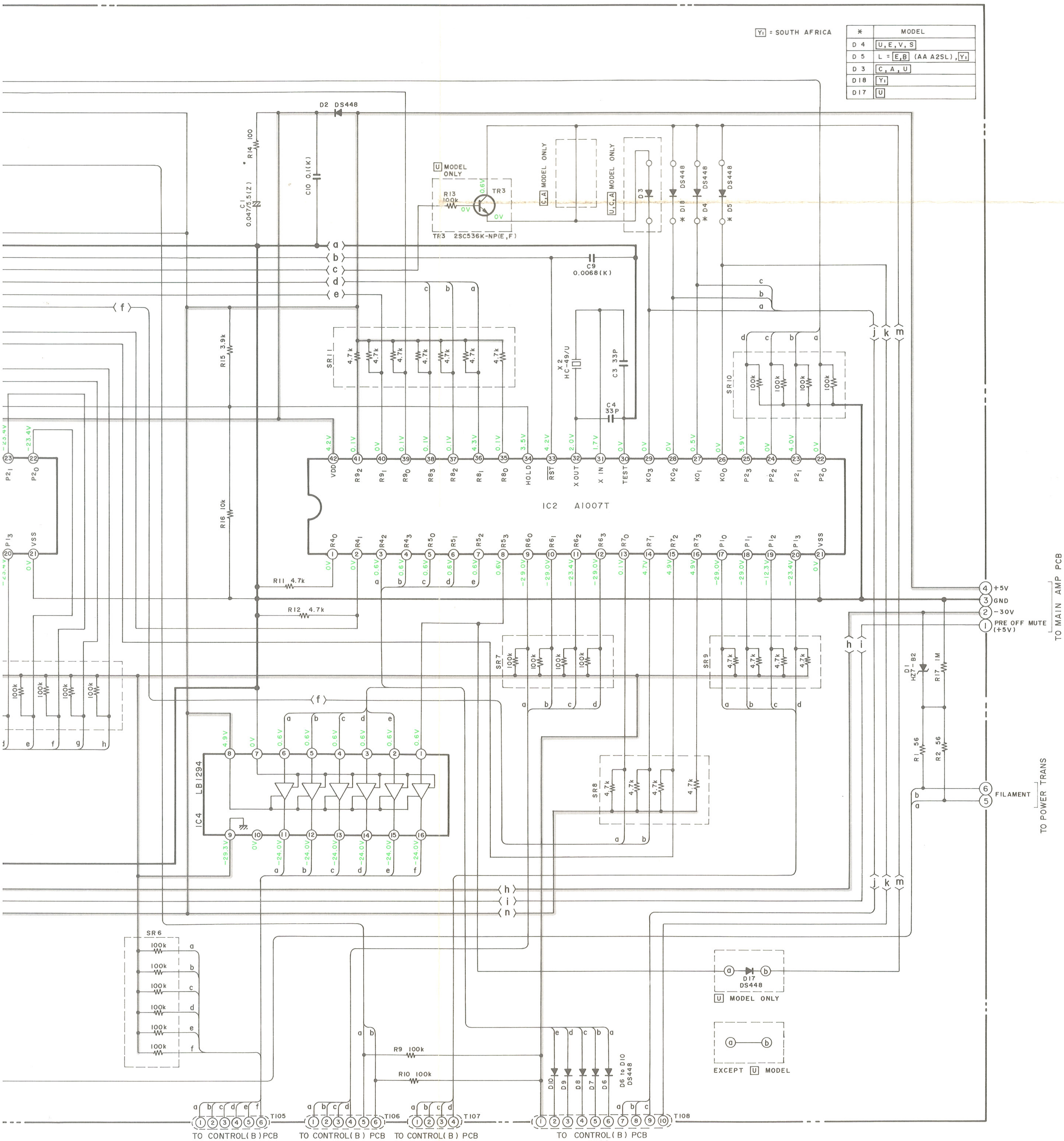
+B (POWER SUPPLY) LINE

001529

F G H I J K

1

2


Y1 = SOUTH AFRICA
D2 DS448
R14 100
C1 0.047/5.5(Z)
C10 0.1(K)
U MODEL ONLY
R13 100k
TR3
TR3 2SC536K-NP(E,F)
C,A MODEL ONLY
U,C,A MODEL ONLY
D3
D18 DS448
D4 DS448
D5 DS448
C9 0.0068(K)
SR11
R15 3.9k
X2 HC-49/U
C3 33P
C4 33P
SR10
R16 10k
IC2 A1007T
VDD
R92 R91 R90 R83 R82 R81 R80
HOLD
RST
X OUT
X IN
TEST
KO3 KO2 KO1 KO0
P23 P22 P21 P20
R40 R41 R42 R43 R50 R51 R52 R53 R60 R61 R62 R63 R70 R71 R72 R73
P10 P11 P12 P13
VSS
R11 4.7k
R12 4.7k
4 +5V
3 GND
2 -30V
1 PRE OFF MUTE (+5V)
TO MAIN AMP PCB
SR7
SR9
D1 HZ7-B2
R17 1M
R1 56
R2 56
6 FILAMENT
5
TO POWER TRANS
SR8
LB1294
IC4
SR6
D17 DS448
U MODEL ONLY
EXCEPT U MODEL
R9 100k
R10 100k
D6 to D10 DS448
T105
T106
T107
T108
TO CONTROL(B)PCB T105
TO CONTROL(B) PCB T106
TO CONTROL(B) PCB T107
TO CONTROL(B) PCB T108

*	MODEL
D 4	U, E, V, S
D 5	L = E,B (AA A2SL), Y1
D 3	C, A, U
D18	Y1
D17	U

3

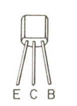
4

5

6

7

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50 WV(J)



2SA608K-NP
2SC536K-NP

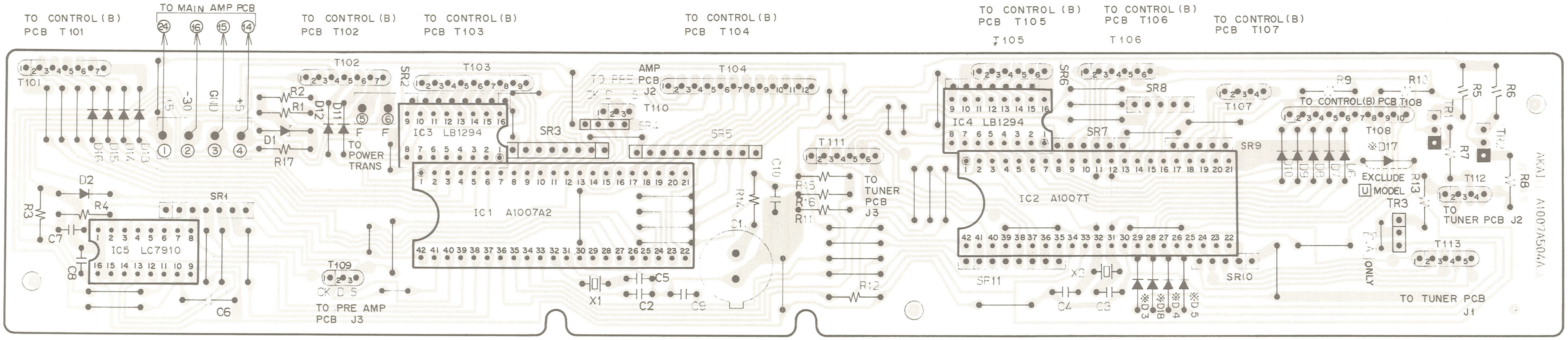
8

AA-A25/L
CONTROL (A)
SCHEMATIC DIAGRAM

NO.7-2 840604A
3C

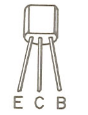
F G H I J K

	TR3	D3	D4	D5	D17	R13	D18
U	○	○	○	╲	○	○	╲
C,A	╲	○	╲	╲	╲	╲	╲
E,V,S	╲	╲	○	╲	╲	╲	╲
A25L	╲	╲	╲	○	╲	╲	╲
Y1	╲	╲	╲	○	╲	╲	○


TO CONTROL (B) PCB T101
TO MAIN AMP PCB
㉔ ⑯ ⑮ ⑭
TO CONTROL (B) PCB T102
TO CONTROL (B) PCB T103
TO CONTROL (B) PCB T104
TO CONTROL (B) PCB T105
TO CONTROL (B) PCB T106
TO CONTROL (B) PCB T107
T101
T102
T103
T104
T105
T106
T107
T108
T109
T110
T111
T112
T113
+15
-30
GND
+5
① ② ③ ④
D16 D15 D14 D13
R2 R1 D12 D11 D1 R17
⑤ ⑥ F F
TO POWER TRANS
SR2
IC3 LB1294
SR3
TO PRE PCB
AMP
CK D S
J2
SR4
SR5
IC1 A1007A2
D2
R3 R4
C7 C8
SR1
IC5 LC7910
C6
CK D S
TO PRE AMP PCB J3
X1 C2 C5 C9
C1
R14 C10
R15 R16 R11
TO TUNER PCB J3
R12
SR6
IC4 LB1294
SR7
SR8
SR9
IC2 A1007T
SR10
SR11
X2
C4 C3
※D3 ※D18 ※D4 ※D5
R9 R10
TO CONTROL(B) PCB T108
D10 D9 D8 D7 D6
※D17
EXCLUDE U MODEL
R13
TR3
C,A ONLY
TR1 TR2
R5 R6 R7 R8
TO TUNER PCB J2
TO TUNER PCB J1
AKAI A1007A504A

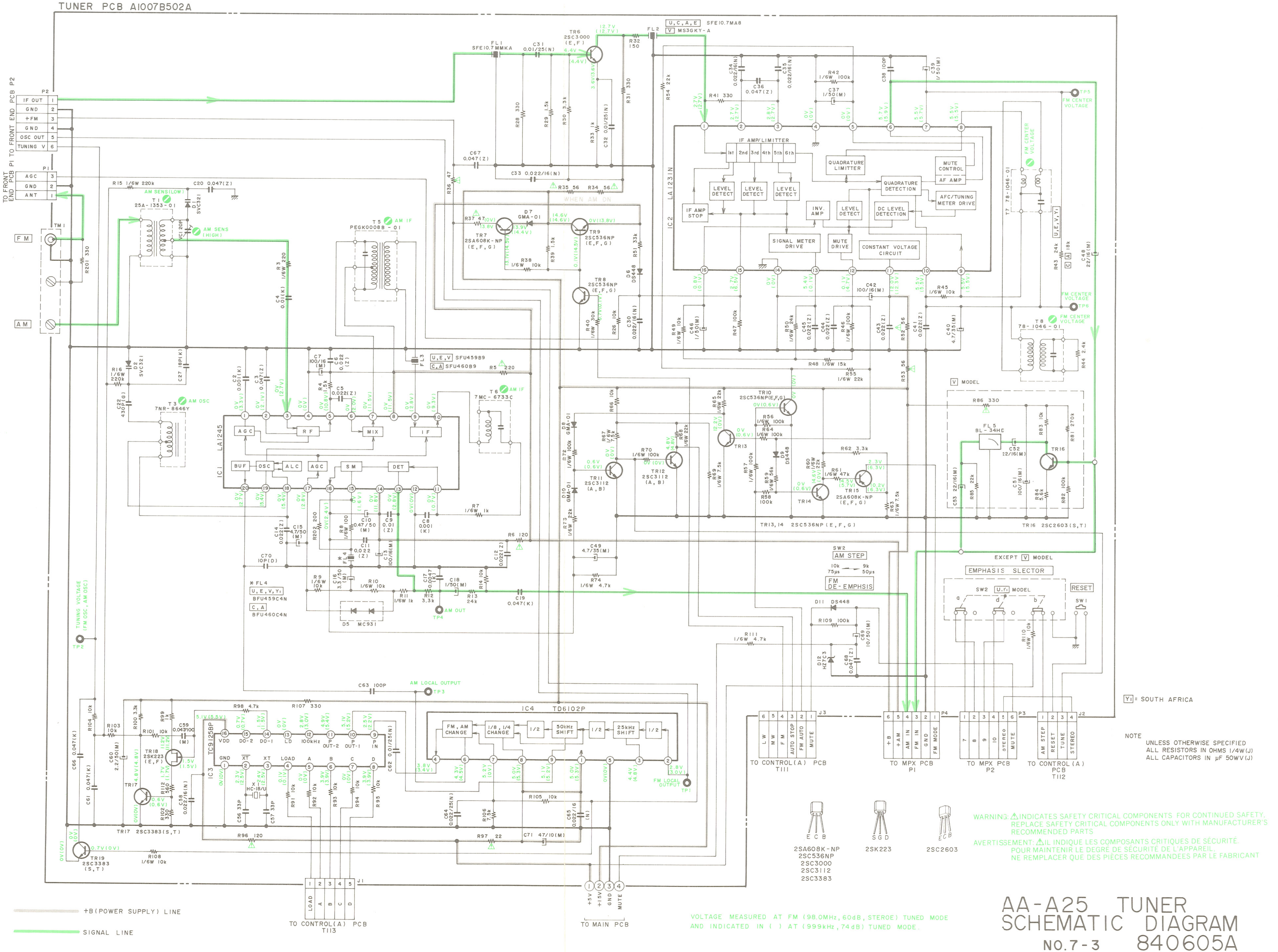
CONTROL (A) PCB A1007A504A

TR1,2----2SA608K-NP (E,F,G)
TR3-----2SC536K-NP (E,F)



2SA608K-NP
2SC536K-NP

AA-A25


TUNER PCB A1007B502A
TO FRONT END PCB P1 TO FRONT END PCB P2
P2
IF OUT
GND
+FM
GND
OSC OUT
TUNING V
P1
AGC
GND
ANT
TM1
FM
AM
R201 330
R15 1/6W 220k
C20 0.047(Z)
AM SENS(LOW)
T1
25A-1353-01
D1 SVC321
AM SENS (HIGH)
FL1 SFE10.7MMKA
C31 0.01/25(N)
TR6 2SC3000 (E,F)
R32 150
FL2
U,C,A,E SFE10.7MA8
V MS3GKY-A
R28 330
R29 1.5k
R30 3.3k
R31 330
R33 1k
C32 0.01/25(N)
C67 0.047(Z)
C33 0.022/16(N)
R35 56
R34 56
WHEN AM ON
R36 47
R37 47
D7 GMA-01
TR7 2SA608K-NP (E,F,G)
TR9 2SC536NP (E,F,G)
R38 1/6W 10k
R39 1.5k
R51 33k
D6 DS448
TR8 2SC536NP (E,F,G)
R40 1/6W 10k
R26 10k
C30 0.022/16(N)
R54 22k
R41 330
C34 0.022/16(N)
C35 0.022/16(N)
C36 0.047(Z)
R42 1/6W 100k
C37 1/50(M)
C38 100P
C39 1/50(M)
TP5
FM CENTER VOLTAGE
IC2 LA1231N
IF AMP/LIMITTER
1st 2nd 3rd 4th 5th 6th
QUADRATURE LIMITTER
MUTE CONTROL
AF AMP
QUADRATURE DETECTION
AFC/TUNING METER DRIVE
LEVEL DETECT
IF AMP STOP
INV. AMP
DC LEVEL DETECTION
SIGNAL METER DRIVE
MUTE DRIVE
CONSTANT VOLTAGE CIRCUIT
C42 100/16(M)
R45 1/6W 10k
T7 78-1046-01
U,E,V,Y1
C A 18k
R43 24k
C48 22/16(M)
TP6
T8 78-1046-01
R44 2.4k
R49 1/6W 10k
C46 1/50(M)
R47 100k
R50 1/6W 24k
C45 0.022(Z)
C44 0.022(Z)
R46 1/6W 100k
C43 0.022(Z)
R52 56
C41 0.022(Z)
C40 4.7/25(M)
R48 1/6W 15k
R55 1/6W 22k
R53 56
T5 AM IF
PEGK0008B-01
R3 1/6W 220
C4 0.01(K)
FL3
U,E,V SFU45989
C,A SFU46089
R5 220
R16 1/6W 220k
D2 SVC321
C27 18P(K)
C22 430P(G)
T3 AM OSC
7NR-8646Y
C7 100/16(M)
C6 0.022(Z)
C2 0.001(K)
C3 0.047(Z)
R4 1.5k
C5 0.022(Z)
T6 AM IF
7MC-6733C
IC1 LA1245
AGC
RF
MIX
IF
BUF
OSC
ALC
AGC
SM
DET
R7 1/6W 1k
C14 0.022(Z)
C15 4.7/50(M)
R202 200
R8 1/6W 100
C10 0.47/50(M)
C9 0.01(Z)
C8 0.001(K)
R6 120
C70 10P(D)
C11 0.022(Z)
C12 0.022(Z)
*FL4
U,E,V,Y1 BFU459C4N
C,A BFU460C4N
R9 1/6W 10k
C16 3.3/50(M)
R10 1/6W 10k
R11 1/6W 1k
R12 3.3k
C17 0.047(Z)
C18 1/50(M)
R13 24k
R14 10k
C19 0.047(K)
D5 MC931
AM OUT TP4
C49 4.7/35(M)
R74 1/6W 4.7k
V MODEL
R86 330
FL5 BL-34HC
C52 22/16(M)
R83 10k
R81 270k
TR16
C53 22/16(M)
R85 22k
C51 100/16(M)
R84 5.6k
R82 100k
TR16 2SC2603(S,T)
R66 10k
D8 GMA-01
R67 1/6W 7.5k
R72 1/6W 100k
R70 1/6W 100k
R68 1/6W 22k
TR11 2SC3112 (A,B)
TR12 2SC3112 (A,B)
D10 GMA-01
R73 1/6W 22k
R65 1/6W 22k
TR10 2SC536NP(E,F,G)
R56 1/6W 100k
R64 1/6W 100k
TR13
D9 DS448
R69 1/6W 7.5k
R57 1/6W 100k
R59 1/6W 56k
R58 100k
TR14
R60 1/6W 22k
R62 3.3k
R61 1/6W 47k
TR15 2SA608K-NP (E,F,G)
R63 1/6W 7.5k
TR13,14 2SC536NP (E,F,G)
SW2
AM STEP
10k 75μs
9k 50μs
FM DE-EMPHSIS
EXCEPT V MODEL
EMPHASIS SLECTOR
RESET
SW2 U,C MODEL
SW1
R110 1/6W 10k
D11 DS448
R109 100k
C69 10/50(M)
R111 1/6W 4.7k
D12 HZ7C3
C68 0.047(Z)
TUNING VOLTAGE (FM OSC, AM OSC)
TP2
C63 100P
AM LOCAL OUTPUT TP3
R107 330
R98 4.7k
IC4 TD6102P
FM, AM CHANGE
1/8, 1/4 CHANGE
1/2
50kHz SHIFT
1/2
25kHz SHIFT
1/2
IC3 TC9125BP
VDD DO-2 DO-1 LD 100kHz OUT-2 OUT-1 IN
GND XT XT LOAD A B C D
X HC-18/U
C56 33P
C57 33P
R91 10k
R92 10k
R93 10k
R94 10k
R95 10k
C62 0.01/25(N)
C64 0.022/25(N)
R106 7.5k
R105 10k
C65 0.022/16(N)
FM LOCAL OUTPUT TP1
R97 22
C71 47/10(M)
R96 120
R103 10k
R100 3.3k
R99 1k
R101 10k
C59 0.047/100(M)
R104 10k
C66 0.047(K)
C61 0.047(K)
C60 2.2/50(M)
TR18 2SK223 (E,F)
TR17
R112 10k
R102 330
C58 0.022(Z)
TR17 2SC3383(S,T)
TR19 2SC3383 (S,T)
R108 1/6W 10k
J1
LOAD A B C D
TO CONTROL(A) PCB T113
J4
+B +15V GND MUTE
TO MAIN PCB
J3
LW MW FM AUTO STOP FM AUTO MUTE
TO CONTROL(A) PCB T111
P4
+B +AM AM IN FM IN GND FM MODE
TO MPX PCB P1
P3
7 8 9 10 STEREO MUTE
TO MPX PCB P2
J2
AM STEP RESET TUNE STEREO
TO CONTROL (A) PCB T112
E C B
S G D
E C B
2SA608K-NP
2SC536NP
2SC3000
2SC3112
2SC3383
2SK223
2SC2603
+B (POWER SUPPLY) LINE
SIGNAL LINE
A B C D E F G H I J K
1 2 3 4 5 6 7 8
001531

Y1 = SOUTH AFRICA

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

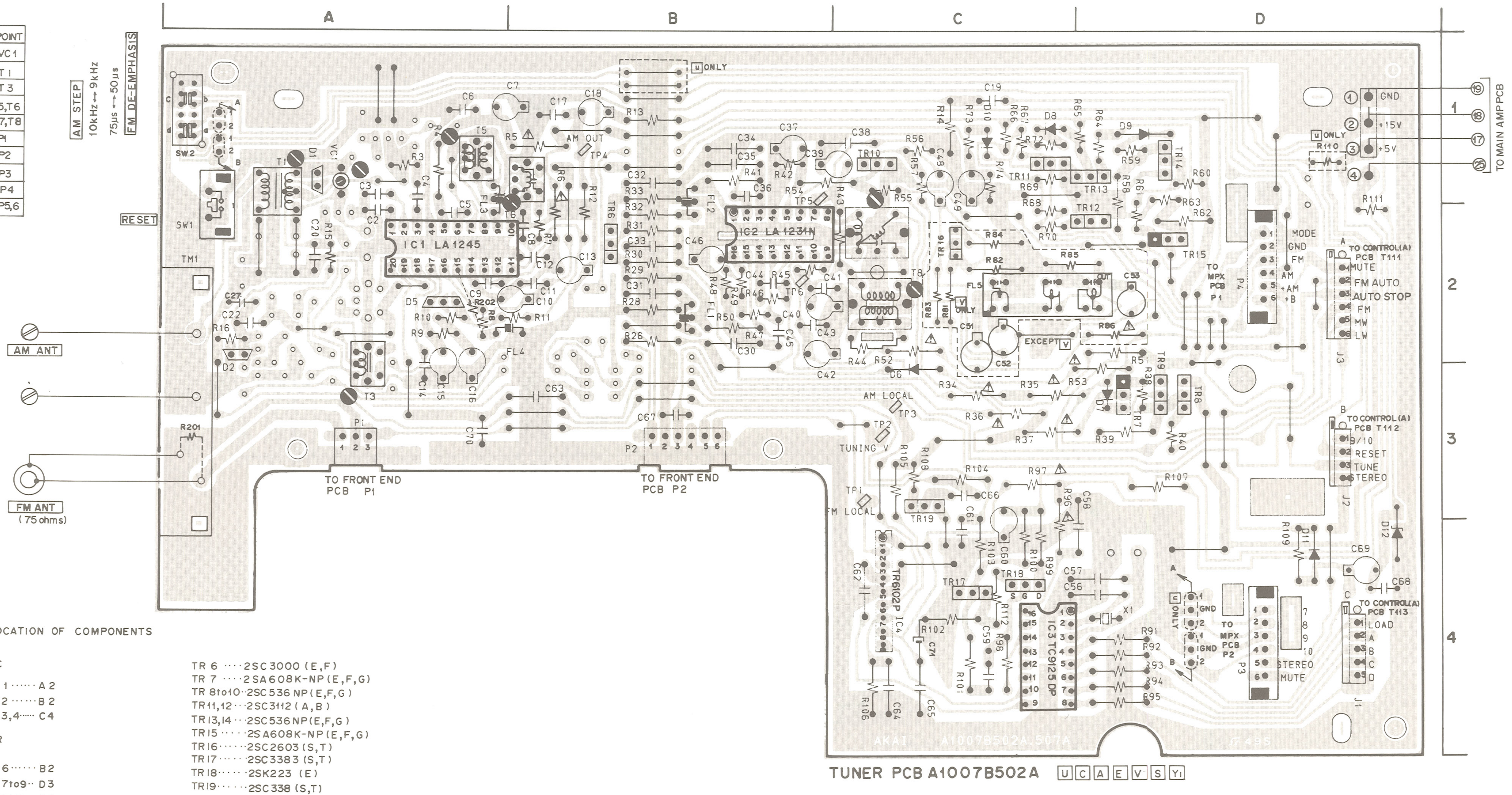
VOLTAGE MEASURED AT FM (98.0MHz, 60dB, STEROE) TUNED MODE AND INDICATED IN ( ) AT (999kHz, 74dB) TUNED MODE.

AA-A25 TUNER SCHEMATIC DIAGRAM

NO.7-3 840605A

4C

ADJUSTMENT ITEM	POINT
AM SENS (HIGH)	VC1
AM SENS (LOW)	T1
AMOSC	T3
AM IF	T5,T6
FM CENTER VOLTAGE	T7,T8
FM LOCAL OUTPUT	TP1
TUNING VOLTAGE (FM, AM OSC)	TP2
AM LOCAL OUTPUT	TP3
AM OUT PUT	TP4
FM CENTER VOLTAGE	TP5,6


A
B
C
D
1
2
3
4
AM STEP
10kHz ↔ 9kHz
75μs ↔ 50μs
FM DE-EMPHASIS
RESET
SW1
SW2
TM1
AM ANT
FM ANT
(75 ohms)
IC1 LA1245
IC2 LA1231N
IC3 TC9125DP
TR6102P IC4
U ONLY
TO FRONT END PCB P1
TO FRONT END PCB P2
AM OUT
TP4
AM LOCAL
TP3
TP2
TUNING V
TP1
FM LOCAL
EXCEPT V
V ONLY
GND
+15V
+5V
TO MAIN AMP PCB
TO MPX PCB P1
MODE
GND
FM
AM
+AM
+B
P4
TO CONTROL(A) PCB T111
MUTE
FM AUTO
AUTO STOP
FM
MW
LW
J3
TO CONTROL(A) PCB T112
9/10
RESET
TUNE
STEREO
J2
TO CONTROL(A) PCB T113
LOAD
A
B
C
D
J1
TO MPX PCB P2
STEREO
MUTE
P3
X1
AKAI A1007B502A,507A

TUNER PCB A1007B502A U C A E V S Y1

LOCATION OF COMPONENTS

IC

IC 1 ······ A 2
IC 2 ······ B 2
IC 3,4 ····· C 4

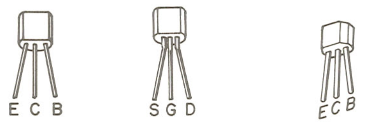
TR

TR6 ······ B2
TR7to9 ·· D3
TR10,11 ··· C1
TR12 ····· D2
TR13,14 ··· D1
TR15 ······ D2
TR16 ······· C2
TR17,18 ···· C4
TR19 ······ C3

TERMINAL

P1 ······· A3
P2 ······· B3
P3 ······· D4
P4 ······· D2
J1 ······· D4
J2 ······· D3
J3 ······· D2
① to ④ ··· D1

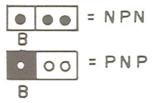
TR 6 ····2SC3000 (E,F)
TR 7 ····2SA608K-NP (E,F,G)
TR 8to10··2SC536NP (E,F,G)
TR11,12···2SC3112 (A,B)
TR13,14···2SC536NP (E,F,G)
TR15 ·····2SA608K-NP (E,F,G)
TR16 ······2SC2603 (S,T)
TR17 ·····2SC3383 (S,T)
TR18 ······2SK223 (E)
TR19 ······2SC338 (S,T)

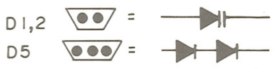


2SA608K.NP
2SC536.NP
2SC3000
2SC3112
2SC3383

2SK223

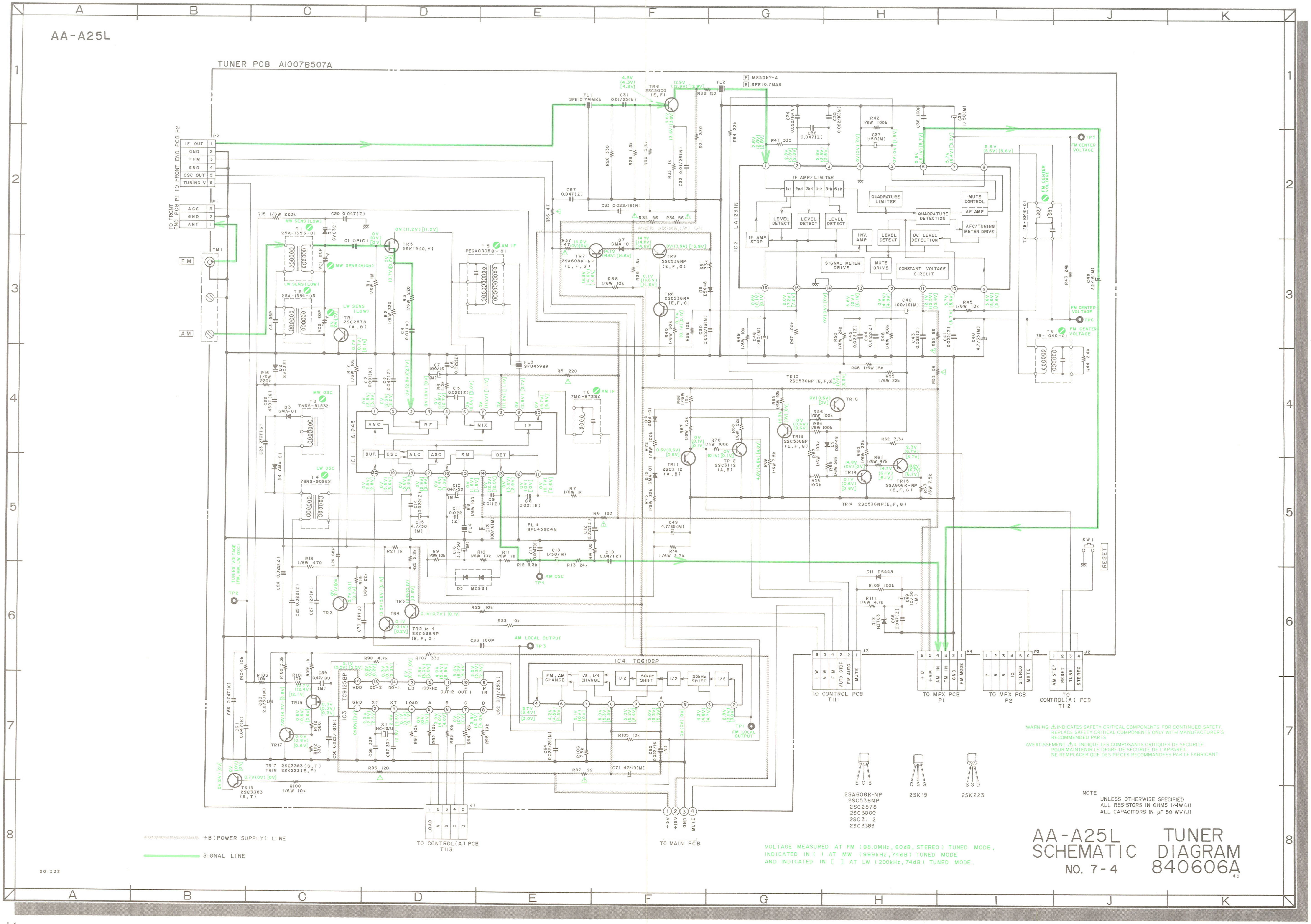
2SC2603





WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


AA-A25L
TUNER PCB A1007B507A
TO FRONT END PCB P2
IF OUT
GND
+FM
GND
OSC OUT
TUNING V
TO FRONT END PCB P1
AGC
GND
ANT
FM
AM
TM1
FL1 SFE10.7MMKA
TR6 2SC3000 (E,F)
FL2
E MS3GKY-A
B SFE10.7MA8
IF AMP/LIMITER
1st
2nd
3rd
4th
5th
6th
QUADRATURE LIMITER
QUADRATURE DETECTION
MUTE CONTROL
AF AMP
AFC/TUNING METER DRIVE
LEVEL DETECT
IF AMP STOP
INV. AMP
DC LEVEL DETECTION
SIGNAL METER DRIVE
MUTE DRIVE
CONSTANT VOLTAGE CIRCUIT
LA1231N
IC2
TP5 FM CENTER VOLTAGE
TP6 FM CENTER VOLTAGE
T7 78-1046-01
T8 78-1046-01
T1 25A-1353-01
T2 25A-1354-03
MW SENS (LOW)
MW SENS (HIGH)
LW SENS (LOW)
LW SENS (HIGH)
TR1 2SC2878 (A,B)
TR5 2SK19 (O,Y)
T5 AM IF PEGK0008B-01
T3 7NR5-9153Z
MW OSC
T4 7BRS-9098X
LW OSC
T6 AM IF 7MC-6733C
FL3 SFU450B9
FL4 BFU459C4N
LA1245
IC1
AGC
RF
MIX
IF
BUF
OSC
ALC
SM
DET
D5 MC931
TP4 AM OSC
TR7 2SA608K-NP (E,F,G)
TR9 2SC536NP (E,F,G)
TR8 2SC536NP (E,F,G)
D7 GMA-01
WHEN AM(MW,LW) ON
TR10 2SC536NP (E,F,G)
TR11 2SC3112 (A,B)
TR12 2SC3112 (A,B)
TR13 2SC536NP (E,F,G)
TR14 2SC536NP (E,F,G)
TR15 2SA608K-NP (E,F,G)
D11 DS448
D12 HZ7C3
SW1 RESET
TUNING VOLTAGE (FM,MW,LW OSC)
TP2
TR2 to 4 2SC536NP (E,F,G)
AM LOCAL OUTPUT
TP3
IC4 TD6102P
FM, AM CHANGE
1/8, 1/4 CHANGE
1/2
50kHz SHIFT
25kHz SHIFT
TC9125BP
IC3
X1 HC-18/U
TR17 2SC3383 (S,T)
TR18 2SK223 (E,F)
TR19 2SC3383 (S,T)
TP1 FM LOCAL OUTPUT
J3
L W
M W
F M
AUTO STOP
FM AUTO
MUTE
TO CONTROL PCB T111
P4
+B
+AM
AM IN
FM IN
GND
FM MODE
TO MPX PCB P1
P3
STEREO
MUTE
TO MPX PCB P2
J2
AM STEP
RESET
TUNE
STEREO
TO CONTROL (A) PCB T112
J1
LOAD
A
B
C
D
TO CONTROL (A) PCB T113
+5V
+15V
GND
MUTE
TO MAIN PCB
E C B
2SA608K-NP
2SC536NP
2SC2878
2SC3000
2SC3112
2SC3383
D S G
2SK19
S G D
2SK223
+B (POWER SUPPLY) LINE
SIGNAL LINE
001532

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

NOTE

UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50 WV (J)

VOLTAGE MEASURED AT FM (98.0MHz, 60dB, STEREO) TUNED MODE, INDICATED IN ( ) AT MW (999kHz, 74dB) TUNED MODE AND INDICATED IN [ ] AT LW (200kHz, 74dB) TUNED MODE.

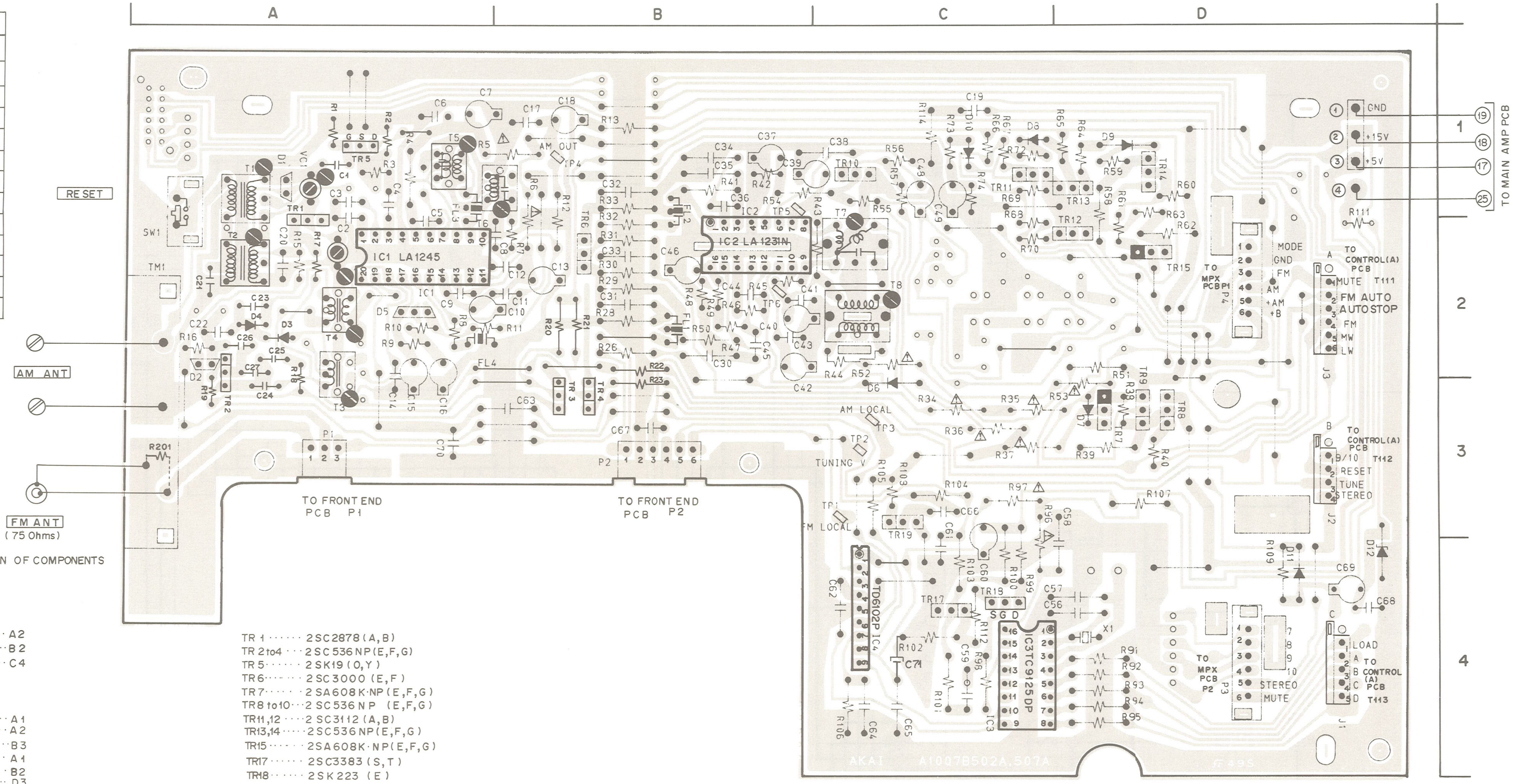
AA-A25L TUNER SCHEMATIC DIAGRAM

NO. 7-4

840606A

4C

ADJUSTMENT ITEM	POINT
MW SENS (LOW)	T 1
MW SENS (HIGH)	VC 1
LW SENS (LOW)	T 2
LW SENS (HIGH)	VC 2
LW OSC	T 4
MW OSC	T 3
AM IF	T5, T6
FM CENTER VOLTAGE	T7, T8
FM LOCAL OUTPUT	TP 1
TUNING VOLTAGE (FM.LW.MW OSC)	TP 2
AM LOCAL OUTPUT	TP3
AM OUT PUT	TP4
FM CENTER VOLTAGE	TP 5,6


A
B
C
D
1
2
3
4
RESET
AM ANT
FM ANT
(75 Ohms)
SW1
TM1
IC1 LA1245
IC2 LA1231N
IC3 TC9125DP
TD6102P IC4
AM OUT
TP4
AM LOCAL
TP3
TUNING V
TP2
FM LOCAL
TP1
TO FRONT END PCB P1
TO FRONT END PCB P2
GND
+15V
+5V
TO MAIN AMP PCB
TO MPX PCB P1
MODE
GND
FM
AM
+AM
+B
TO CONTROL(A) PCB
MUTE T111
FM AUTO
AUTO STOP
FM
MW
LW
J3
TO CONTROL(A) PCB
9/10 T112
RESET
TUNE
STEREO
J2
TO MPX PCB P2
STEREO
MUTE
P3
LOAD
TO CONTROL (A) PCB T113
J1
AKAI A1007B502A,507A

TUNER PCB A1007B507A B E

LOCATION OF COMPONENTS

IC

IC 1······A2
IC 2······B2
IC 3,4·····C4

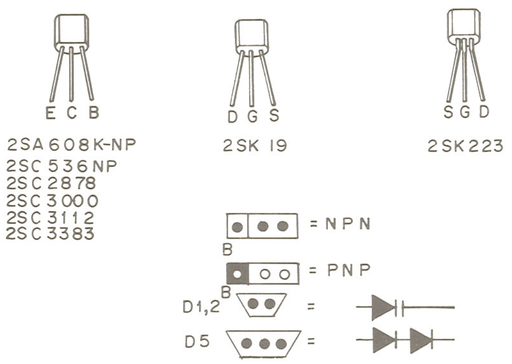
TR

TR 1·······A1
TR 2·······A2
TR 3,4·····B3
TR 5·······A1
TR 6·······B2
TR 7to9·····D3
TR10,11·····C1
TR12·······D2
TR13,14·····D1
TR15·······D2
TR17,18·····C4
TR19·······C3

TERMINAL

P1·······A3
P2·······B3
P3·······D4
P4·······D2
J1·······D4
J2·······D3
J3·······D2
①to ④·····D1

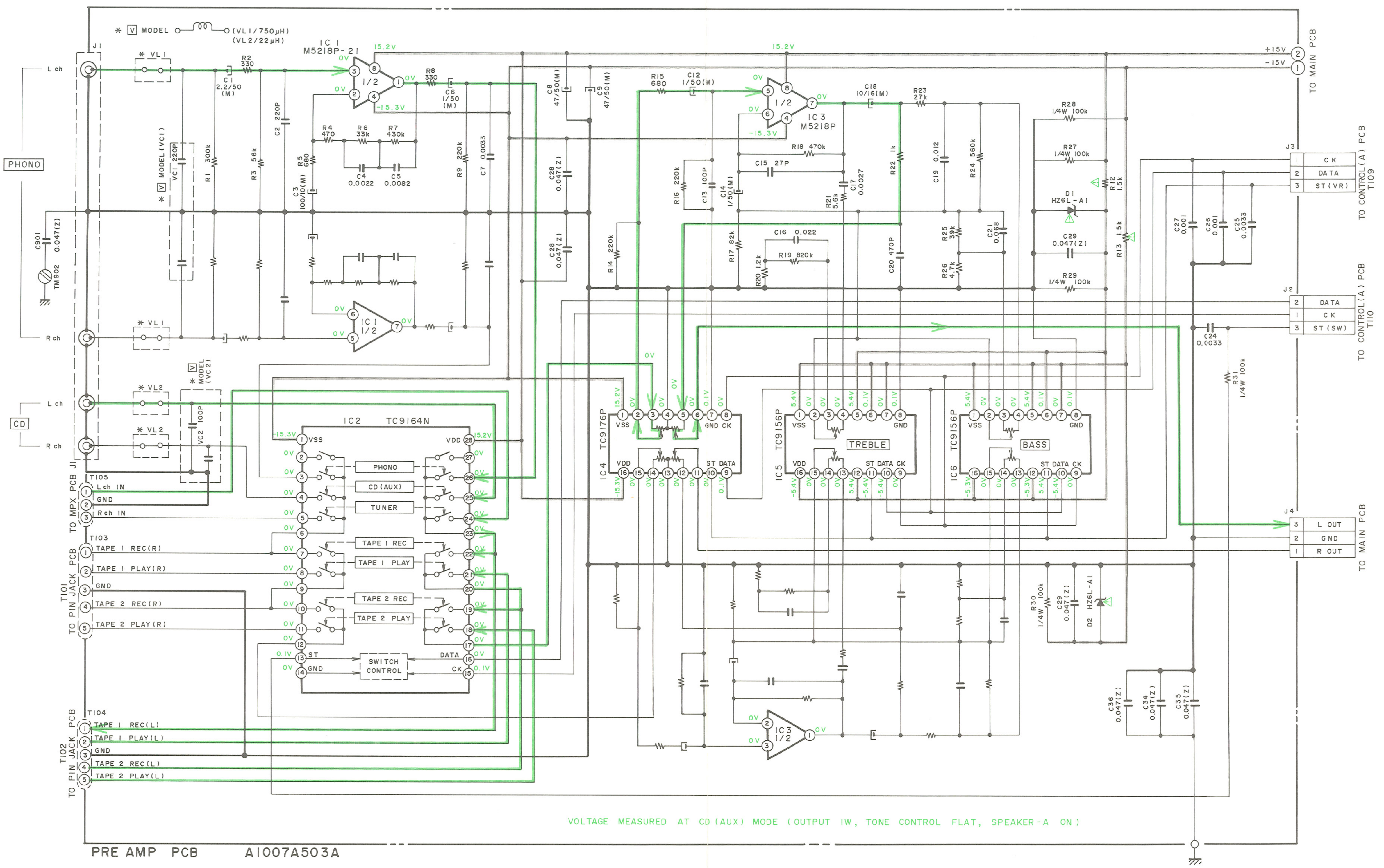
TR 1·······2SC2878 (A,B)
TR 2to4····2SC536NP(E,F,G)
TR 5·······2SK19 (O,Y)
TR 6·······2SC3000 (E,F)
TR 7·······2SA608K·NP (E,F,G)
TR 8 to 10···2SC536NP (E,F,G)
TR11,12·····2SC3112 (A,B)
TR13,14·····2SC536NP(E,F,G)
TR15·······2SA608K·NP(E,F,G)
TR17·······2SC3383 (S,T)
TR18·······2SK223 (E)
TR19·······2SC3383 (S,T)


E C B
2SA608K-NP
2SC536NP
2SC2878
2SC3000
2SC3112
2SC3383
D G S
2SK19
S G D
2SK223
= NPN
B
= PNP
B
D1,2
=
D5
=

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

AA-A25/L


* V MODEL
(VL1/750μH)
(VL2/22μH)
J1
PHONO
L ch
R ch
CD
* VL1
* VL2
* V MODEL (VC1)
VC1 220P
* V MODEL (VC2)
VC2 100P
C901 0.047(Z)
TM902
IC1 M5218P-21
1/2
15.2V
-15.3V
R1 300k
R2 330
R3 56k
C1 2.2/50 (M)
C2 220P
R4 470
R5 680
R6 33k
R7 430k
C3 100/10(M)
C4 0.0022
C5 0.0082
R8 330
C6 1/50 (M)
R9 220k
C7 0.0033
C8 47/50(M)
C9 47/50(M)
C28 0.047(Z)
R14 220k
R15 680
C12 1/50(M)
R16 220k
C13 100P
C14 1/50(M)
IC3 M5218P
R18 470k
C15 27P
R21 5.6k
C17 0.0027
R17 82k
C16 0.022
R19 820k
R20 1.2k
C18 10/16(M)
R23 27k
R22 1k
C20 470P
C19 0.012
R24 560k
R25 39k
R26 4.7k
C21 0.068
R28 1/4W 100k
R27 1/4W 100k
D1 HZ6L-A1
C29 0.047(Z)
R29 1/4W 100k
R12 1.5k
R13 1.5k
C27 0.001
C26 0.001
C25 0.0033
C24 0.0033
R31 1/4W 100k
R30 1/4W 100k
D2 HZ6L-A1
C36 0.047(Z)
C34 0.047(Z)
C35 0.047(Z)
+15V
-15V
TO MAIN PCB
J3
CK
DATA
ST(VR)
TO CONTROL(A) PCB T109
J2
DATA
CK
ST(SW)
TO CONTROL(A) PCB T110
J4
L OUT
GND
R OUT
TO MAIN PCB
IC2 TC9164N
VSS
VDD
PHONO
CD(AUX)
TUNER
TAPE 1 REC
TAPE 1 PLAY
TAPE 2 REC
TAPE 2 PLAY
SWITCH CONTROL
ST
GND
DATA
CK
IC4 TC9176P
IC5 TC9156P
TREBLE
IC6 TC9156P
BASS
VSS
VDD
GND CK
ST DATA
ST DATA CK
T105
TO MPX PCB J1
Lch IN
GND
Rch IN
T103
T101
TO PIN JACK PCB
TAPE 1 REC(R)
TAPE 1 PLAY(R)
GND
TAPE 2 REC(R)
TAPE 2 PLAY(R)
T104
T102
TO PIN JACK PCB
TAPE 1 REC(L)
TAPE 1 PLAY(L)
GND
TAPE 2 REC(L)
TAPE 2 PLAY(L)
0V
0.1V
5.4V
-5.4V
-5.3V
5.3V
15.2V
-15.3V

VOLTAGE MEASURED AT CD (AUX) MODE (OUTPUT 1W, TONE CONTROL FLAT, SPEAKER-A ON)

PRE AMP PCB A1007A503A

= +B (POWER SUPPLY) LINE
= SIGNAL LINE
SIGNAL LINE IS INDICATED LEFT CHANNEL ONLY.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

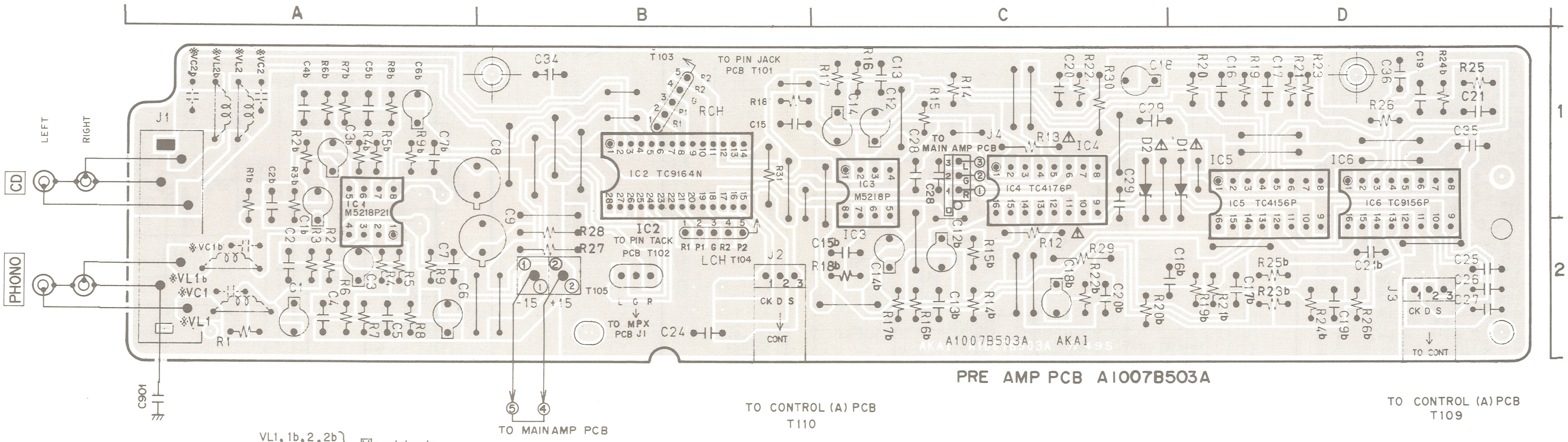
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50 WV(J)

AA-A25/L PRE AMP
SCHEMATIC DIAGRAM

NO. 7-5 840607A (A2)
4C

001530



A
B
C
D
1
2
CD
PHONO
LEFT
RIGHT
J1
IC1 M5218P
IC2 TC9164N
IC3 M5218P
IC4 TC4176P
IC5 TC4156P
IC6 TC9156P
T103
TO PIN JACK PCB T101
RCH
LCH T104
IC2 TO PIN TACK PCB T102
T105
-15
+15
TO MPX PCB J1
J2
CK D S
CONT
TO MAIN AMP PCB
J4
J3
TO CONT
A1007B503A AKAI
C901
TO MAINAMP PCB
TO CONTROL (A) PCB T110
TO CONTROL (A) PCB T109

PRE AMP PCB A1007B503A

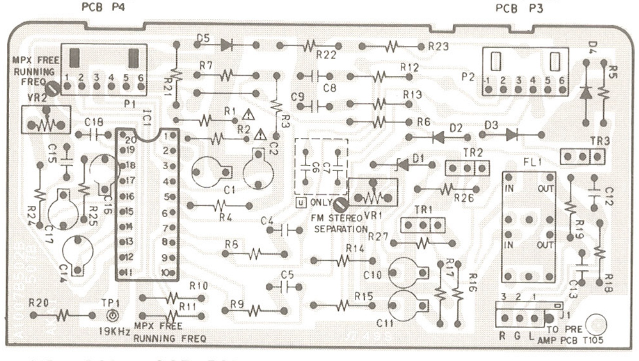
VL1, 1b, 2, 2b
VC1, 1b, 2, 2b } V model only

LOCATION OF COMPONENTS

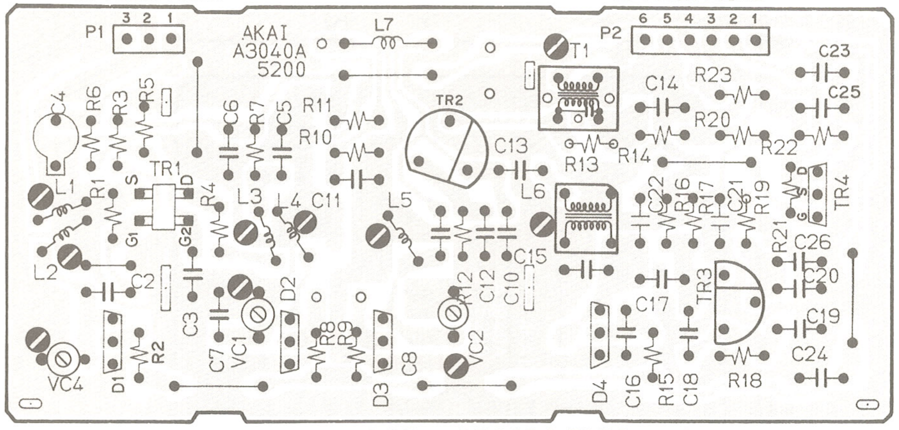
IC		TERMINAL	
IC1	A1	T103	B1
IC2	B1	T104,105	B2
IC3,4	C1	J2	B2
IC5,6	D1	J3	D2
		J4	C2
		①②	B2

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


TO TUNER PCB P4
TO TUNER PCB P3
MPX FREE RUNNING FREQ
VR2
FM STEREO SEPARATION
VR1
19KHz
MPX FREE RUNNING FREQ
TP1
TO PRE AMP PCB T105
IC1

MPX PCB A1007B507B

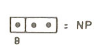

TO TUNER PCB P1
TO TUNER PCB P2
AKAI
A3040A
5200
P1
P2
T1
TR1
TR2
TR3
TR4
L1
L2
L3
L4
L5
L6
L7
VC1
VC2
VC4

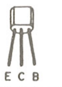
FRONT END PCB A3040C 5200

ADJUSTMENT POINT	
L1 to 5	FM SENS (LOW)
VC1,2,4	FM SENS (HIGH)
L6	FM OSC (LOW)
T1	○FM SENS (LOW) ○FM STEREO DISTORTION

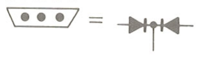
TR1--------3SK107(E)
TR2-------2SC2999(C,D)
TR3-------2SC930(E,F)
TR4-------2SK161(O,Y)

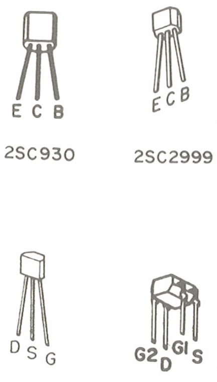
TR1,2,3 --- 2SC3383(S,T)

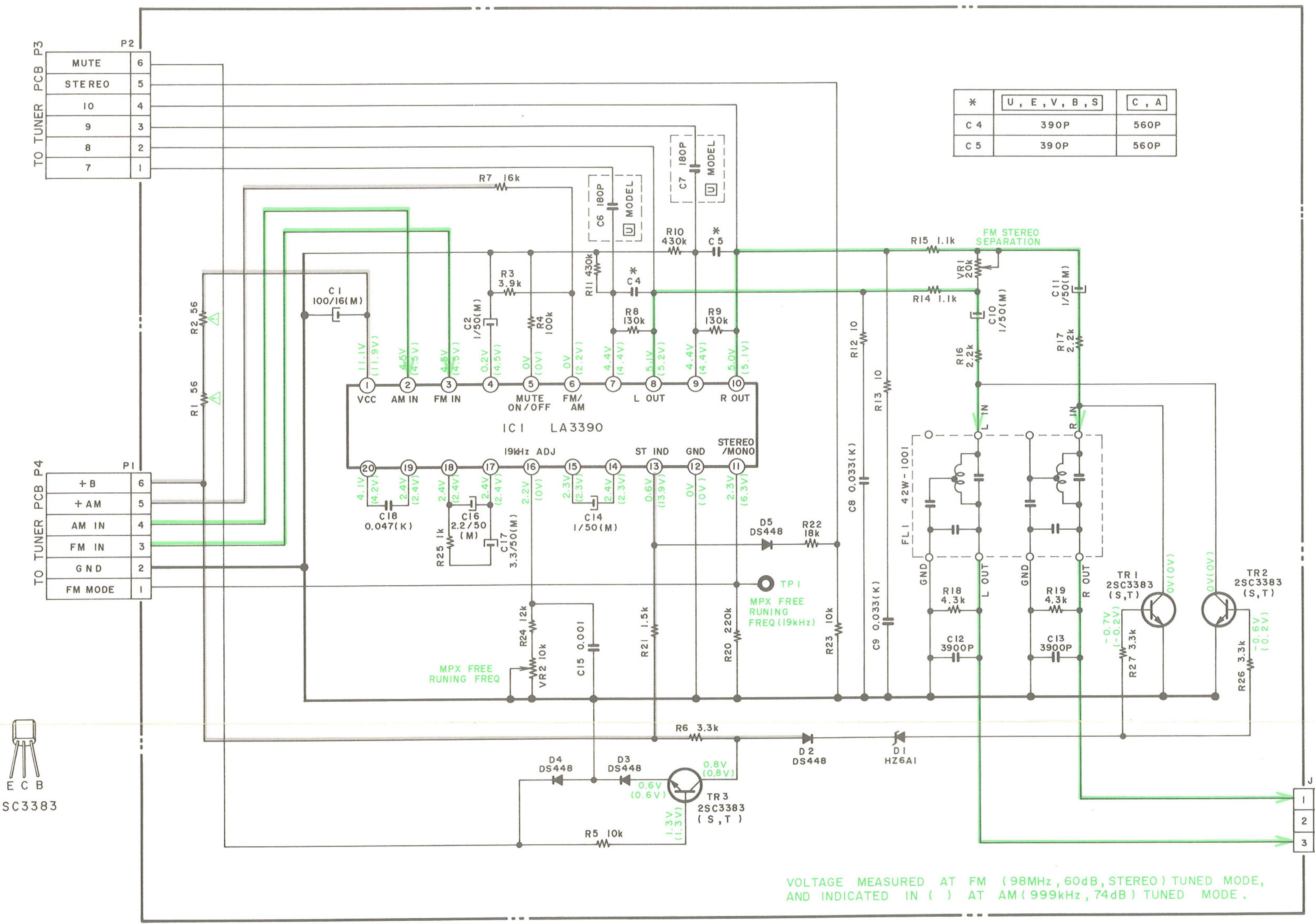




2SC3383(S,T)



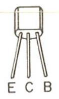

E C B
2SC930
E C B
2SC2999
D S G
2SK161
G2 D G1 S
3SK107


TO TUNER PCB P3
P2
MUTE
STEREO
10
9
8
7
TO TUNER PCB P4
P1
+B
+AM
AM IN
FM IN
GND
FM MODE
IC1 LA3390
VCC
AM IN
FM IN
MUTE ON/OFF
FM/AM
L OUT
R OUT
19kHz ADJ
ST IND
GND
STEREO /MONO
C1 100/16(M)
C2 1/50(M)
R3 3.9k
R4 100k
R7 16k
C6 180P U MODEL
C7 180P U MODEL
R10 430k
R11 430k
C4 *
C5 *
R8 130k
R9 130k
C18 0.047(K)
C16 2.2/50 (M)
C17 3.3/50(M)
R25 1k
C14 1/50(M)
D5 DS448
R22 18k
TP1
MPX FREE RUNING FREQ (19kHz)
R24 12k
VR2 10k
MPX FREE RUNING FREQ
C15 0.001
R21 1.5k
R20 220k
R23 10k
R12 10
R13 10
C8 0.033(K)
C9 0.033(K)
R15 1.1k
R14 1.1k
FM STEREO SEPARATION
VR1 20k
C10 1/50(M)
C11 1/50(M)
R16 2.2k
R17 2.2k
FL1 42W-1001
L IN
R IN
L OUT
R OUT
GND
R18 4.3k
R19 4.3k
C12 3900P
C13 3900P
TR1 2SC3383 (S,T)
TR2 2SC3383 (S,T)
R27 3.3k
R26 3.3k
R6 3.3k
D2 DS448
D1 HZ6A1
D4 DS448
D3 DS448
TR3 2SC3383 (S,T)
R5 10k
R1 56
R2 56
J1
RIGHT
GND
LEFT
TO PRE AMP PCB J3
11.1V
(11.9V)
4.5V
(4.5V)
0.2V
0V
(0V)
(2.2V)
4.4V
(4.4V)
5.1V
(5.2V)
5.0V
(5.1V)
4.1V
(4.2V)
2.4V
(2.4V)
2.2V
2.3V
(2.3V)
0.6V
(13.9V)
(6.3V)
0.8V
(0.8V)
(0.6V)
1.3V
(1.3V)

*	U, E, V, B, S	C, A
C4	390P	560P
C5	390P	560P

VOLTAGE MEASURED AT FM (98MHz, 60dB, STEREO) TUNED MODE,
AND INDICATED IN ( ) AT AM (999kHz, 74dB) TUNED MODE.

MPX PCB A1007B507B



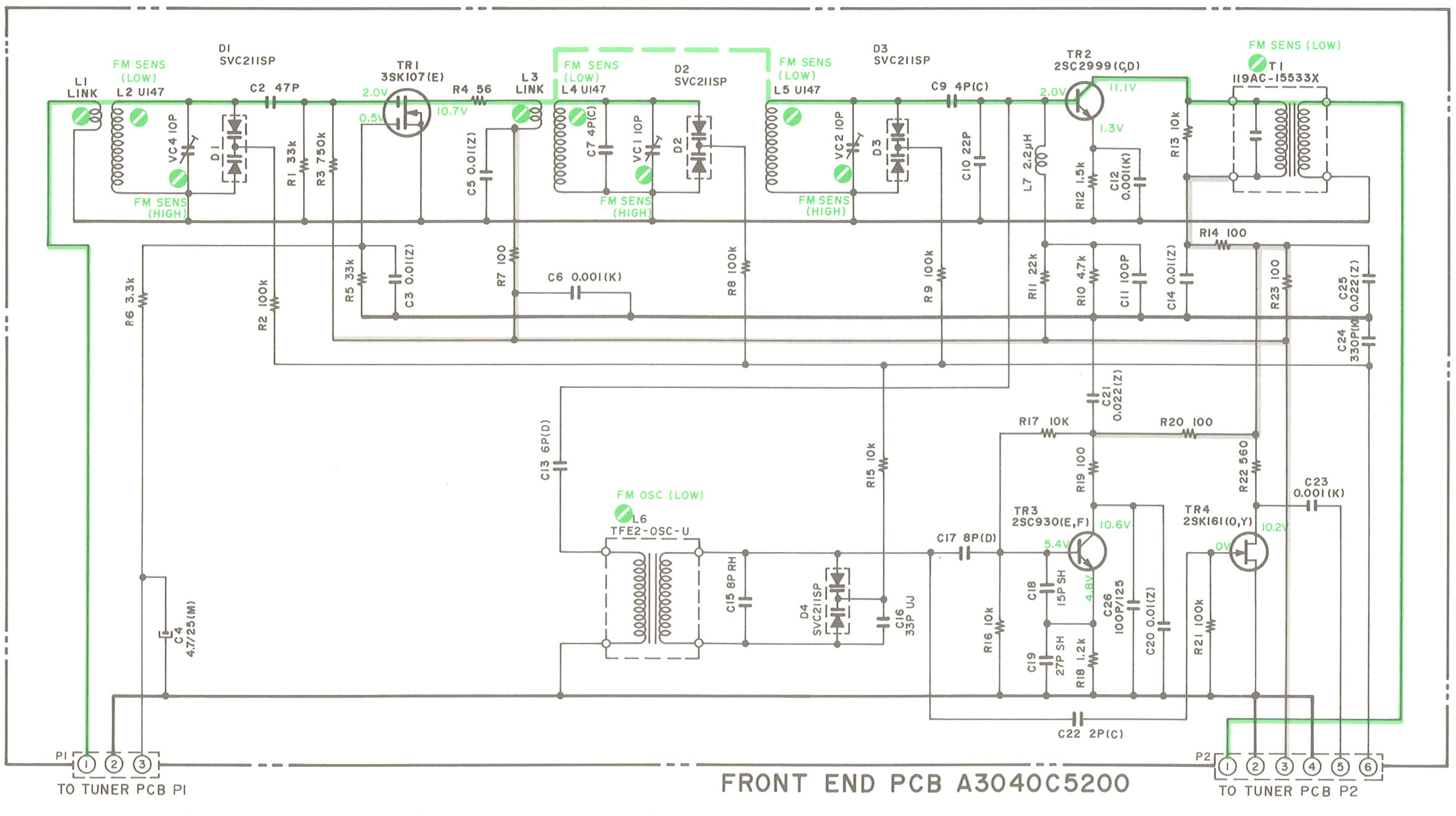
2SC3383

▭ +B (POWER SUPPLY) LINE
🟩 SIGNAL LINE

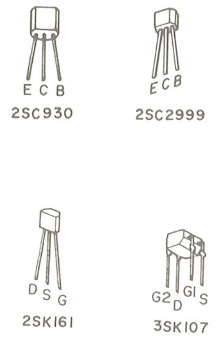
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)

AA-A25/L MPX SCHEMATIC DIAGRAM

NO. 7-6 840608A (A3) 4C


L1 LINK
FM SENS (LOW)
L2 U147
VC4 10P
FM SENS (HIGH)
D1 SVC211SP
C2 47P
R1 33k
R3 750k
TR1 3SK107(E)
R4 56
2.0V
0.5V
10.7V
C5 0.01(Z)
L3 LINK
L4 U147
C7 4P(C)
VC1 10P
D2 SVC211SP
L5 U147
VC2 10P
D3 SVC211SP
C9 4P(C)
C10 22P
L7 2.2μH
TR2 2SC2999(C,D)
11.1V
1.3V
R12 1.5k
C12 0.001(K)
R13 10k
T1 119AC-15533X
R14 100
R6 3.3k
R2 100k
R5 33k
C3 0.01(Z)
R7 100
C6 0.001(K)
R8 100k
R9 100k
R11 22k
R10 4.7k
C11 100P
C14 0.01(Z)
R23 100
C25 0.022(Z)
C24 330P
C13 6P(D)
R15 10k
FM OSC (LOW)
L6 TFE2-OSC-U
C15 8P RH
D4 SVC211SP
C16 33P UJ
C17 8P(D)
R16 10k
C19 27P SH
C18 15P SH
TR3 2SC930(E,F)
5.4V
4.8V
10.6V
R17 10k
R19 100
C21 0.022(Z)
R20 100
R18 1.2k
C26 100P/125
C20 0.01(Z)
R22 560
TR4 2SK161(O,Y)
0V
10.2V
R21 100k
C23 0.001(K)
C4 4.7/25(M)
C22 2P(C)
P1
TO TUNER PCB P1
P2
TO TUNER PCB P2

FRONT END PCB A3040C5200


E C B
2SC930
E C B
2SC2999
D S G
2SK161
G2 D G1 S
3SK107

▭ : +B (POWER SUPPLY) LINE
🟩 : FM SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)

AA-A25/L FRONT END SCHEMATIC DIAGRAM

NO.7-7 840224B (A3) 4C